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J. Rameyn Beck

Portrait by J. H. W. & Co. from a daguerrotype

THE  
NEW-YORK  
JOURNAL OF MEDICINE,  
AND THE  
COLLATERAL SCIENCES.

EDITED BY

S. S. PURPLE, M.D., AND STEPHEN SMITH, M.D.

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*Verumque est, ad ipsam curandi rationem nihil, plus conferre, quam experientiam.*

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CELSUS.



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# THE NEW-YORK JOURNAL OF MEDICINE

FOR JANUARY, 1856.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

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ART. I.—*A Biographical Sketch of the late T. ROMEYN BECK, M.D., LL.D.* BY E. H. VAN DEUSEN, M.D., With a Steel Engraving.

INTIMATELY connected with the later history of nearly every department of scientific literature, in this State, is the name of Dr. Theodric Romeyn Beck. His family were of English descent, but so long settled at Schenectady, that by intermarriages there they had become incorporated with the Dutch inhabitants. In the probate of the will of his great-grandfather, proved at Albany, in 1733, he is described as "Caleb Beck, of the County of Albany, Gent., having, during his life and at the time of his death, goods, rights, and credits, in divers places in our provinces." His grandfather was admitted an attorney at law, to practice in all the courts at Albany, in the year 1751. His own father, who died very early, left his children to the care of his widow, the only daughter of the Rev. Derick Romeyn, D.D., then pastor of the Reformed Dutch Church at Schenectady, and well known as a Professor of Theology in that church.

The Romeyn family came from Holland and settled in New York about the middle of the seventeenth century; and among those of them who became distinguished may be

mentioned the Rev. John B. Romeyn, D.D., who died much lamented in New York, in the year 1825, and Dr. Nicholas Romayne, one of the founders, and first President of the College of Physicians and Surgeons of New York, and President of the New York State Medical Society in 1808-9-10-11.

Dr. T. R. Beck was born at Schenectady, New York, on the 11th day of August, 1791, and was the eldest of five sons, all gifted in no ordinary degree. By the death of his father, his early care and education, and that of his four brothers, devolved upon their widowed mother. In the brilliant future and distinguished usefulness of her youthful charge, we see the fruit of the piety, intelligence, and energy of this truly excellent woman; and as the reward of all her care, we find her, in advancing years, the honored mother of one of the most talented families in the State. Of these five sons, two died early—one a lawyer of great promise, at St. Louis, and another, Nicholas F., who deceased while holding the office of Adjutant General under De Witt Clinton. Of the surviving brothers, Dr. John B. Beck, the distinguished author and physician, was for many years Professor of *Materia Medica* in the College of Physicians and Surgeons of New York, and died in that city in 1851. The remaining brother, Lewis C. Beck, was no less eminent, and, at the time of his decease, two years since, was Professor of Chemistry in the Albany Medical College, and occupied the same chair in Rutgers College, New Jersey. To the general as well as professional reader the writings of both these brothers are well known, while the name of the latter is prominently associated with the preparation of the "*Natural History of the State of New York*," to which he contributed a valuable volume.

Dr. T. Romeyn Beck acquired the rudiments of his education in the Grammar School at Schenectady, under the more immediate supervision of his grandfather, and was graduated at Union College in 1807. Making choice of medicine as a profession, he soon after commenced his studies with Drs. McClelland and Low, at Albany; but, induced by

the superior advantages offered in the city of New York, he subsequently proceeded thither, and entered the office of Dr. David Hosack. He attended the lectures of the College of Physicians and Surgeons, then recently established, and received from that institution, in 1811, the degree of Doctor in Medicine, on which occasion he presented an inaugural thesis on the subject of Insanity.

This dissertation was immediately published, and received much merited attention. Although written at a time when but few in this country had devoted themselves particularly to the study of Insanity, it exhibits, on the part of its author, a full appreciation of the importance of the subject, and a very intimate acquaintance with its literature. It is now out of print, the limited edition published soon finding its way into the hands of permanent possessors. The pamphlet contains thirty-four closely printed pages, and is inscribed to his uncle, Dr. John B. Romeyn, and Dr. David Hosack, and presented to his early preceptors, Drs. Low and McClelland, "as the first-fruits of an education commenced under their care." After an introduction, with a brief detail of earlier investigations, and the various theories advanced by older writers to account for the phenomena of diseased mental action, follows a condensed history of the disease, its symptomatology, etiology, pathology, prognosis, and treatment. In subsequent pages the medical jurisprudence of insanity is considered, in reference both to the security of the public and the proper treatment of the patient.

This little volume, from the pen of "one whose opportunities of viewing the disease had been scanty, and whose information was derived principally from books," exhibits an intimate acquaintance with the literature of the subject, and the then only partially acknowledged wants of the insane, alike creditable to his character as a scholar and to his correct judgment,

Soon after his graduation he returned to the city of Albany, opened an office, and commenced the practice of his profession. His cultivated taste and studious habits soon brought

him into intimate relation with the scientific men of his day; and as early as 1813 we find his name upon the list of Counselors of the "Society for the Promotion of Useful Arts," in connection with that of De Witt Clinton and others equally eminent. This association at that time held a high rank in the scientific world, and had enrolled upon its list of membership some of the most honored names in the State. It was a re-incorporation of the old "Society for the Promotion of Agriculture, Arts, and Manufactures," first organized in 1791, after the expiration of its charter in 1804. Among his earlier and most successful efforts in this new and honorable field, is the annual address, delivered by appointment before the Society, at the Capitol, in the city of Albany, on the 3rd of February, 1813. This production was more particularly directed to the public, its object being the more perfect development of the mineral resources of our country, or, as is stated in the preface, to exhibit at one view the mineral riches of the United States, with their various application to the arts, and to demonstrate the practicability of the increase of different manufactures whose materials are derived from this source. It is well calculated to awaken an increased interest in this important matter, and was received with great favor throughout the Union.

His valued service in still another field, is beautifully acknowledged by Prof. Emmons. In dedicating the Fifth Volume of the Natural History of the State of New York to Dr. Beck, he remarks :

"There is more than one reason why the concluding divisions of the present work, undertaken to explore and illustrate the Natural History of the State of New York, and conducted under Legislative patronage, should be dedicated to you. You were among the first to foster the enterprise, and remained its consistent advocate in times when adverse circumstances seemed to jeopardize its continuance : much more than this, your whole life has been assiduously engaged in promoting the advance of science, and the spread of popular education ; and the published results of your

scientific and literary labors, may be referred to as reflecting an honor upon your native State. Would, that the merits of the present volume were such as to render it more worthy its dedication."

In 1814, he married Harriet, daughter of James Caldwell, Esq., a well-known citizen of Albany, who died in 1823. He has left no son to inherit his name, and only two daughters.

In 1815, Dr. Beck was appointed Professor of the Institutes of Medicine, and Lecturer on Medical Jurisprudence, in the College of Physicians and Surgeons of the Western District of New York, an institution then in the third year of its existence. The proximity of the College to the city of Albany enabled him to discharge his professional duties, and, at the same time, retain his medical practice, which he continued to do for some time.

Notwithstanding his many arduous duties, his interest in the progress of scientific investigation seems to have been unabated, and, in the spring of 1819, he read before the Society for the Promotion of the Useful Arts a most elaborate paper on Alum, which will be found printed with the transactions of the Association. A short time previous, he found his strength unequal to the laborious duties of his profession; and, on account of his apprehension of ill health, and, perhaps, in indulgence of his increasing taste for literary pursuits, he abandoned the general practice of medicine entirely, and, in 1817, was appointed Principal of the Albany Academy, an institution collegiate in character, and occupying a high literary standing. Teaching was especially adapted to his taste; and under his enlightened management, for more than a quarter of a century, the Academy unvaryingly maintained a most elevated rank, among similar institutions. Dr. Beck continued a Professor at Fairfield until the College was dissolved, and, in 1841, became a Professor of *Materia Medica* in the Albany Medical College, the chair of Medical Jurisprudence being already filled. This professorship he resigned in 1853, and was then appointed Emeritus Professor.

In 1829, Dr. Beck was elected President of the Medical Society of the State of New York, and, at the meeting of the Society, at Albany, delivered the annual address, on the subject of "Medical Evidence." Continuing in office several years, he pronounced, on similar occasions subsequently, two addresses—one upon "Medical Improvements," and the other upon "Small Pox," all of which will be found in the volume of "Transactions" for the respective years.

Since 1851, he has filled the honorable situation of Secretary to the Board of Regents of the University of the State of New York; and, beside the multiplied duties connected with that position, has had devolving upon him, as *ex-officio* Secretary to the Trustees of the State Library, a large share of its management. The complete and well-arranged catalogue of the Library, and the interesting and comprehensive reports of the Board of Regents, bear the impress of his untiring application and devotion to the important interests over which that distinguished body presides.

Dr. Beck has always been a man of great and enlightened public spirit, ever ready to countenance and promote whatever tended to secure the highest interest of the community. This spirit and his natural benevolence have enlisted him ardently in the great public charities, either in their establishment and organization, or in the subsequent management of their affairs. His "Statistics of the Deaf and Dumb," read before the Medical Society of the State of New York, was the fruit of this philanthropy, and was most powerful in directing the attention of the public to the wants of this afflicted portion of the community.

Dr. Beck was appointed one of the Managers of the New York State Lunatic Asylum, by the act of its organization, in April, 1842; and has been re-appointed by the Governor and Senate, at the expiration of each successive tri-annual period until the present time. Upon the death of Mr. Munson, in the spring of 1854, he (although a non-resident member), was unanimously elected President of the Board. The institution has, at all times, had the advantage



of his wise counsels, efficient aid, and ardent devotion, and of his presence and immediate co-operation with his associates, whenever demanded by matters of unusual or special importance. Here, as well as in all other similar positions, he has ever consulted the highest and most enduring good of the interests committed to his charge, without regard to the prejudices or the more apparent benefits of the hour or the day, or any mere personal claims or advantages. His wisdom and experience, his independence, decision and energy, and his unflinching integrity, have made him a most valuable guardian of all the affairs of this great public charity.

It is, however, with Dr. Beck, as a writer, that we have at present especially to do, and we will close this sketch by a notice of his editorial connection with the *Journal of Insanity*, and his great work on Medical Jurisprudence.

In April, 1844, the first number of the *American Journal of Insanity* was issued from the press, occupying an entirely new field in the medical literature of this country. The generous motive which led Dr. Brigham, its founder and first editor, to assume, in addition to his onerous duties as Superintendent of a large asylum, the labor and responsibility of its establishment, is well known to most of our readers. To many of his colleagues and professional friends he was largely indebted for encouragement, in his undertaking, and for much valued and gratefully acknowledged assistance: among them, Dr. Beck, who, deeply interested in the attainment of the ends at which the Journal aimed, warmly seconded his efforts, and, amid many other engagements, found sufficient time to contribute frequently and ably to its pages. After Dr. Brigham's death, the Managers of the State Lunatic Asylum, aware of the importance to any specialty, of a periodical devoted to its advancement and interest, assumed the entire responsibility of its publication, and, by their unanimous request, induced Dr. Beck to edit the ensuing volume. He gave his consent, hoping at the close of the year to be relieved of a care which, with his other numerous duties, was a heavy tax; but, in the

absence of any other arrangement, he continued to conduct it until the close of the last volume, when "advancing years and more imperative duties" compelled him to relinquish his editorial connection.

In the theme of his inaugural dissertation at the Medical College, and in the subject of many of his literary efforts, we perceive how early and closely his attention has been drawn to insanity and its legal relations. From a knowledge of his character, it is very natural to suppose that this interest was awakened, not only by the intrinsic merit of the subject, but, also, by the then very general feeling that this department of medical literature was indeed most barren. How well he succeeded in his effort to supply this deficiency is evidenced by the multiplied editions of his *Medical Jurisprudence*, which have already been called for. Since its first issue from the press, in 1823, in two large octavo volumes, of nearly two thousand pages, it has passed through five American, one German, and four London editions. The favorable reception of this work in foreign countries, at a time when national feeling in the medical world was stronger than at any previous or subsequent period, shows how completely its merits disarmed every prejudice. Says a bibliographer, in a notice of the German edition: "Among the numerous and unequivocal evidences of the very high estimation in which Dr. Beck's *Elements of Medical Jurisprudence* are held by the profession in Europe, their translation into the German language must be regarded as the most flattering and decisive indication of their true value. In no country has this interesting and varied science been prosecuted with such unabated zeal, or have so much research and learning been elicited on its several curious topics, as in Germany. From the time of Zacchias, indeed, to the present day, it has been the favorite object of study with German physicians, and their opinions of the merits of any treatise on the subject are, therefore, entitled to the highest weight and the most respectful consideration. Proud are we, therefore, to see them prize the performance of our learned countryman so

highly as to deem it worthy of transfusion into their vernacular tongue. In his native language his work is as yet without a parallel."

His labors in this field did not cease with the publication of his great work, but, for many years afterward, besides the emendation and supervision of subsequent editions, he contributed largely upon the same subject to various medical periodicals. A distinguished writer, in reviewing a copy of the tenth edition, for Hays' *American Journal of Medical Science*, remarks: "The pages of this Journal, for years past, have borne constant evidence of the untiring and invaluable research of Dr. Beck, whose observations and extracts from foreign and domestic sources have filled that portion of it devoted to medical jurisprudence; and the writer of the present notice bears his testimony to the same effect; for, having taken much interest in the subject, and consequently had occasion to examine the journals, he found it impossible to furnish a single novelty to this department in which he had not been anticipated by Dr. Beck." In both the medical and legal periodicals of the day there have, from time to time, with successive editions of his work, appeared many and varied notices and reviews—flattering evidence of its merit, and the high estimation of both professions. From some of these it would give us pleasure to extract; but the work has already received the stamp of worth, has taken its place as high authority, and acquired for itself and its author a most extended reputation.

The greater portion of the preceding sketch of Dr. Beck's professional life was prepared for the *American Journal of Insanity*, on the occasion of his retirement from the more active discharge of public duties connected with the specialty to which that periodical is devoted. Thus restricted, it is necessarily, as a biography, incomplete. In other departments of science, his investigations have been no less extended, and to other schemes of benevolence, he has as generously devoted his energies and rare practical attain-

ments; and though these services, so valuable and so widely appreciated, may not be enumerated here, they have found a far more enduring record than these pages could afford.

To Dr. Beck was allowed the gratification of witnessing, in a measure at least, the attainment of the important ends at which his labors aimed, and the consummation of many of the projects to which he had looked forward with happy anticipations.

He has lived to see the claims of the deaf-mute, so ably urged by himself, and so warmly advocated by his friend, the lamented Gallaudet, recognized in almost every State of the Union; and the institution of New York bearing a high reputation as one of the most successful schools for deaf-mute instruction in the world. He has witnessed the adoption in this State, of a public system of education, elementary and collegiate, alike thorough and successful; and as the crowning effort in the field of his severest, yet most congenial, labor, a "State Library" which, for completeness of organization and beauty of arrangement, stands unrivaled, and for which, it may be remarked, the State of New York is almost entirely indebted to his extended and complete knowledge of the history of Literature and Science, in which he had no equal in this country, if indeed anywhere.

He has had the satisfaction of seeing the *American Journal of Insanity*, a periodical in the success of which he was so much interested, firmly established, and gradually extending its field of influence and usefulness. The State Lunatic Asylum, at Utica, an institution with which he has been officially connected since its organization, and over whose interests he has so ably presided, has attained a rank among similar institutions alike creditable to its judicious management and the State; and his untiring devotion to the study of Medical Jurisprudence, has enabled the profession in America to point with pride to an American author, at the head of the literature of one of the most important departments of medical science.

Dr. Beck's constitution, naturally strong and vigorous, at

length yielded to this long-continued and unremitting mental toil, and, during the spring of 1854, he himself became conscious of failing strength, and, at the earnest solicitation of his friends, was induced to restrict the circle of his labors. The summer of 1855 was spent at Lake George, in the hope that entire freedom from care, might recruit his impaired health. Of his last illness, little is to be said. Paroxysms of dyspnœa, with nausea and other distressing symptoms, from which he occasionally suffered, had been attributed to an organic affection of the heart. Physical examination, however, failed to confirm this diagnosis, and from the later history of his disease and the absence of important pathological lesion, as subsequently ascertained, it would seem that his death was the result simply of exhaustion. Thus, on the 19th of November, 1855, in the sixty-fifth year of his age, the last member of this talented family ceased from his labors.

Actuated by the highest motives, Dr. Beck has been an untiring laborer in every field of science and philanthropy, and most truly may it be said of him, that he was one of those, "in whose death mankind has lost a friend." His life was one of great practical usefulness, and such, as every good and wise man, in advancing years, would desire to look back upon; and he has left behind him a name, around which cluster more delightful and enduring recollections, than the crumbling honors, for which ambition toils, could ever have afforded.

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ART. II.—*Amputation at the Knee Joint, Illustrated by the Cases which have occurred in American practice, and mainly by those which have been treated in the New York Hospital.* By THOMAS M. MARKOE, M.D., Attending Surgeon.

THERE is a certain number of injuries and diseases of the lower extremity, requiring amputation, in which it would be desirable, if there were no valid objections to such a procedure, to remove the member at the knee joint, rather than

through the thigh. There are, for example, compound fractures so high up on the tibia, as to preclude amputation at the usual point in the leg, yet, where there would be sufficient flap for a disarticulation of the knee. There are cases where necrosis has so disorganized the tibia, that it must be removed entire; and cases where cancerous disease of the same bone makes it proper not to leave any portion of it behind, in which an amputation through the knee joint, if it were a justifiable operation, would satisfy all the laws of good surgery, as far as removal of the entire disease, and operating through sound parts, is concerned.

I believe, however, that on presentation of such a case, nine-tenths of the surgeons of the present day would proceed, at once, to amputation through the thigh, without bestowing a moment's consideration upon the operation at the joint; or, if such consideration should be entertained, it would only be to dismiss the thought, as involving a procedure at once unwise, unsafe, and unsurgical.

This pre-judgment and pre-decision of this important surgical question, I am disposed to consider as unsupported by sound reason, and entirely unwarranted as a deduction from the facts which are already before the profession, and as demanding from us a reconsideration, at least, as candid and impartial, as the former verdict was sweeping and indiscriminating.

I confess myself to be a partisan and an advocate for amputation at the knee joint; and I became so in the year 1841, on examining, at the New York Hospital, a stump left after this operation. The integument covering the condyles was sound, and free from callosities, excoriations, or tenderness; and with this surface applied upon a cushion, in an ordinary wooden leg, he could walk without inconvenience, ten miles a-day, and had been able to do so ever since the stump was healed, some years before. The performances of this stump were seen and admired by a number of gentlemen, who happened to visit the hospital at that time, the patient remaining there some weeks, I think,

for a syphilitic disorder; and the impression made upon my own mind, when comparing it with the useless, tender, pointed cones of flesh, left by the ordinary amputation through the thigh, was a desire to ascertain whether such an inestimable advantage might not in certain cases, with safety and propriety, be secured to our patients. During the fifteen years that have elapsed, I have never lost sight of this inquiry, and, after some considerable opportunities of observation, I still feel strongly inclined to the opinion that, in its appropriate case, amputation at the knee joint is, for many reasons, to be preferred, before amputation through the thigh.

My attention and interest in this subject have been again more particularly awakened by the occurrence of the two following cases, which have recently presented themselves. They are the only two instances in which I have myself operated, though I have watched with care the progress of all the cases that have occurred in the New York Hospital, now nine in number.

*Case 1.*—Anna M. H., a stout, healthy child, two years and three months old, was knocked down and run over by a car on the Third Avenue Railroad, May 18th, 1855. I saw her within an hour after the accident, and found her lying partially stupid, seemingly asleep, but easily roused to pretty loud demonstrations of pain, when moved or touched rudely. The surface was pale and cool, particularly the extremities. She was very restless at intervals, with a pulse which was rapid and feeble, but varying very much in its force, so much so, that at times I feared death was about take place from the direct shock of injury. On examining the limbs, it was evident that the car wheel had passed over one, perhaps both legs. The right was crushed, from just below the knee, into a shapeless mass. The left was obliquely lacerated across its anterior surface, by a wound six inches long, which, in so small a limb, was nearly its whole length; the bones of this leg, however, had happily escaped injury. The accident occurred about three o'clock in the afternoon.



She was carefully removed to her father's house, which was just opposite where the accident occurred, and some weak wine and water was given her, with one drop of laudanum every half hour. She was covered warmly with blankets; the wounds, for the time being, were merely dressed loosely with wet towels. There was, and had been, no considerable loss of blood.

By eight o'clock of the same evening, reaction had occurred, and seemed fully sustained; the pulse having become steady, the surface warm, the lips more red, and she more sensible, and complaining more of the pain of her wounds. She had taken four drops of laudanum. In consultation with Dr. Gurdon Buck and Dr. Horsfield, it was deemed safe to proceed to the removal of the limb. The injuries to the bone, and the lacerations of the soft parts, approached so near the head of the tibia, that there was no room for amputation at the usual situation, and the only choice lay between an operation through the thigh or through the knee joint. The latter was determined upon. I made a long anterior flap, in which I was obliged to include some of the original lacerations, and a short posterior one. The anterior flap, and the opening of the joint, was done with a scalpel; and the posterior flap, which, of course, included a little of the upper part of the gastrocnemius muscle, was made with a catlin. In trying to avoid unnecessary exposure of the synovial surface to the air, I cut very close to the head of the tibia in opening the joint, and left the interarticular cartilages attached to the articular face of the femur. They were, however, easily removed with the scissors. The patella was not touched, nor was the cartilage of incrustation removed. Very few vessels required ligature; none whatever, in the anterior flap. The wound was brought together with stitches closely placed, and the flaps were found to fit well, without tension. The stump was dressed lightly with wet lint and a bandage. The laceration of the right leg was sewed up at wide intervals, to sustain the lacerated flaps in place, and a wet towel was wrapped round it as a bandage. The operation was

done under the influence of ether. Three more drops of laudanum were given through the night, with wine and water; and, towards morning, she partook freely of milk and water. During the next two days the primary effects of the injury rapidly disappeared; she became bright and natural in her appearance, and took, tolerably well, her usual food. She did not seem to suffer much pain from her wounds, except when they were touched; and it was noticed that, though she shrank very much from the least handling of the stump, yet she herself would move it about in all directions, and without any apparent inconvenience.

The stump was dressed on the 25th, seven days after the operation. It looked very well, a good deal of union had taken place, very little suppuration, no inflammation. The wound of right leg is cleaning off, with slight superficial sloughing. Her general condition is good, and though the appetite is rather poor and she looks a little pale, yet she is bright and lively, and suffers no pain worth mentioning. The further progress of the cure was very satisfactory and without accident. The last ligature did not come away till June 28th, when the stump had been some time healed. The lacerated wound on the right leg also healed favorably. The cicatrix on the face of the stump is well behind, and mostly out of the way of direct pressure. The stump is free from tenderness, and appears to be perfectly sound. She has begun to walk a little on an artificial leg, and she bears her weight on a cushion on the end of the stump, without difficulty or pain; and in crawling about the floor or in climbing, she uses the stump to support herself just as readily and as easily as she does the sound knee.

*Case 2.*—The second case occurred in the person of a stout Irish laborer, a brakeman on the Erie Railroad. He was twenty-two years of age, and apparently a healthy man, though he did not claim that his habits were strictly temperate. He was in the act of stepping on the platform of the engine, which was backing at the moment, when his foot slipped, and he fell with his right leg thrust through be-

tween the spokes of the driving wheel, in which position the wheel must have made several revolutions, crushing his leg between it and the side of the engine. This was in the afternoon of the 5th of November, 1855, and the next day he was brought down to the Hospital. The limb was so completely disorganized, that amputation was evidently the only resource left us. The injuries of the bones and muscles extended too high for us to think of attempting to operate through the leg, but, on a careful consultation, it was deemed safe to operate at the joint, inasmuch as the integuments both behind and before, seemed sound for three or four inches below the lower end of the patella. The operation was accordingly done at the joint, the procedure being precisely that described in the former case, leaving a long anterior and a short posterior flap. The small portion of the gastrocnemius muscle, which was left by the catlin in the posterior flap, was removed as close to its origin as could be conveniently reached. A small V shaped portion of the anterior flap, which seemed severely contused, was also trimmed out. Only five vessels required ligature, and these were all so closely grouped together round the popliteal artery, that they were all contained within a space as large as a shilling piece. No vessel in the anterior flap required a ligature. Instead of carrying the ligatures over the face of the condyles, and out of the wound, in the usual manner, a small cut was made by the scalpel in the posterior flap just opposite the tied vessels, and all the threads were brought out behind together, leaving the face of the stump without any threads crossing it. The flaps were here and there infiltrated with coagulated blood, but otherwise seemed free from injury. The edges of the wound were brought together with stitches closely placed, and dressed with cloths dipped in tepid water. No adhesive strips nor bandages were applied. The patient's general condition was favorable. A large anodyne was administered after the operation.

Nov. 7. Passed a tolerably comfortable night. Considerable feverish reaction has already commenced. The stump

looks well, some bloody water and air accumulated between the flaps. This was let out by removing a stitch.

Nov. 8. A good deal of inflammation about the stump, with swelling on each side of the patella. Fever high. Ten leeches were put on around the patella, and poultices applied. From this point the inflammation rapidly subsided, and the fever abated. By the end of the week, all morbid tenderness had subsided, and the swelling had disappeared, as suppuration was established. The stitches were removed on the fourth day. Union had taken place along half the wound, the other half gaped slightly. He was able by the end of the week to hold up his stump himself to be dressed. On the eleventh day, he was sitting up in bed of his own accord. About this time we observed that at the bottom of the wound, where the flaps were a little drawn apart by retraction, there was exposed to view about three-fourths of an inch square of the cartilaginous covering of the outer condyle; at first it looked white, and shining, like healthy cartilage, but, gradually, the peripheral portion became converted into a soft, pultaceous layer of a grayish color, looking like soaked, greasy leather. This change spread in about a week over the whole exposed surface, and in this soft substance granulations rapidly sprung up, which soon converted it into a florid suppurating surface. The exposed cartilage all underwent this change, except a small piece, about as large as a three-cent piece, where the transformation seemed to go on under it, and between it and the bone, so that it was detached in a thin layer unchanged. This process was completed about the twenty-second day. The ligatures had all come away by the nineteenth day. On removing the loose sequestrum of cartilage on the twenty-fifth day, it was found to be connected with a larger piece remaining under the anterior edge of the wound. The whole was as large as a shilling piece, and came away easily, leaving a healthy granulating surface beneath. A small abscess formed on the face of the stump, which was opened.

Dec. 13. The wounds are all filled up and rapidly cicatrized.

ing. The patient sits up out of bed, and bids fair to be well in much less than the average period of cure in amputation of the thigh.

In addition to the three cases above alluded to, the following cases have occurred in the practice of my colleagues in the New York Hospital :

*Case. 4.*—Ellen Callighan, æt. 35. Was received into the house for severe burns, involving so much of the leg and reaching so near, say within two inches of the knee joint, that the only question presented was whether to amputate at the knee or through the lower part of the thigh. The operation was done at the knee joint by Dr. Jno. Kearney Rodgers, on the 9th of February, 1846, on the fourteenth day after the accident occurred. He made a circular incision, saving all the integument which was uninjured. The patella was not removed. On removing the leg it was found that the flap was not nearly sufficient to cover the condyles, and an incision was therefore made through the integuments across the anterior surface of the thigh, about a hand's breadth above the joint. This allowed the integument to slide down and to cover the end of the femur, but not without a great deal of tension on the flaps. The first dressing took place on the 15th. No union. The flaps gaping three inches apart, exposing the surface of the condyles, a portion of the anterior flaps sloughing. Profuse suppuration set in, with great constitutional irritation which gradually increased in spite of tonics and stimulants and the most liberal allowance of good food; cough and free expectoration gradually came on; and though, about the first of March, both the stump and her general condition improved for a few days, yet the rallying proved only temporary, and she died, worn out by irritation and exhaustion, March 7th, about one month from the time of the operation.

*Case 5.*—Thomas Henry, æt. 21, an Irish laborer, was brought to the Hospital, Oct. 18, 1848, with an injury of his leg so severe as to leave no question as to the necessity of amputation. The injury had occurred twelve hours before,

by the passage of one of the Erie Railroad cars over his limb. Having been brought so long a distance to the city, he was, on his arrival, very much prostrated, with cold skin, small pulse, and occasional vomiting. Reaction having in some measure been brought about by the use of stimulants, the limb was amputated the next day by Dr. Rodgers at the knee joint, there not being enough integument left to allow of an operation lower down. The flaps were made with a scalpel, and were anterior and posterior, and mainly of integument. There was but little hæmorrhage. Reaction seemed to flag after the operation, his pulse becoming more rapid and very feeble. On the 21st he was evidently failing. He had become very restless, pulse weak and fluttering. Vomits all his drinks. On the 22nd he died, apparently from the primary shock of injury, aggravated by a long journey.

*Case 6.*—Daniel Bilby, æt. 36, was admitted Dec. 19, 1850, with syphilitic disease of the bones of the leg, accompanied with gangrene of the soft parts. His limb was amputated at the knee joint, Jan. 21st, and he died on the 29th, from the progress of the disease. The details cannot be further given, as the record of the case was by some accident omitted in the Hospital register.

*Case 7.*—John Kelly, æt. 39, an Irish laborer, was brought into the Hospital, Sept. 7th, 1853, with his right leg crushed by the fall upon it of a log of mahogany. The blow was received in such a manner as to crush the tibia and its covering, leaving the fibula unbroken. On his admission, a few hours after the receipt of the injury, his general condition was fair, pulse ninety-two, with a good warm skin. Amputation was proposed to him, but he obstinately refused to have anything done until next day, Sept. 8. His general condition had fallen off in the interval, pulse 118, surface disposed to be cool, and tongue furred. The limb was, however, taken off at the knee joint, as giving him, even under unfavorable circumstances, the best chance for his life. The flaps were made as liberal as the lacerations would allow, but were found to be too short and the ends

of the condyles were trimmed off. This allowed of their being brought together. The wound was dressed as usual, and a bandage was placed on the thigh from above downwards, to compress the muscles. On his recovery from the effects of ether, he remained very restless and wandering, trying often to get up out of bed. He was, and had been, on a full stimulant course of regimen. He suffered great pain in the stump, which was relieved by removing the thigh bandage. He had a bad night of restlessness, and delirium, though he seemed somewhat better the day after the operation with a pulse at eighty, somewhat fuller than the day before. Rather suddenly, at noon on the 10th, rapid failing of the pulse came on, and he died forty-eight hours after the operation. The case was under the care of Dr. Watson.

*Case 8.*—Michael Rooney, æt. 50, was admitted February 18th, 1852, with a badly crushed leg, which had been caused by a railroad car passing over the limb, about eleven hours previous to his admission. The injury was so great, and so near the knee joint, that amputation was performed at the joint by Dr. Buck. A small anterior, and a large posterior flap were made, the patella being left, and the wound dressed in the usual manner. As the patient had been brought from Piermont, and the depression consequent upon his injury, had not entirely passed away, no anæsthetic was used. Reaction came on more decidedly after the operation, and everything went on favorably. Pain was moderate. Tolerable rest at night, with moderate general excitement. On the 19th, the stump was hot and tender, with a good deal of fluid discharging from it. Six leeches were applied. On the 20th, the stump was dressed, and union was found to have taken place for about one-half the extent of the wound. Discharge moderate. From this time he improved slowly, but steadily, until in the early part of March, a diarrhœa set in, which continued nearly a month, keeping him reduced and feeble. On the 20th March, burrowing of pus had taken place among the muscles of the thigh, which found its way out through the stump, causing a profuse discharge. System-



atic compression along the track of the abscesses, with a generous diet and moderate stimulation, gradually brought about an improvement. The abscesses contracted, the wound slowly cicatrized, the discharge diminished, and, at the same time, the diarrhœa was controlled, and his general condition steadily ameliorated. It was not till the middle of May that he was able to leave his bed, and not till the first of July that the stump was solidly healed. Several months after leaving the Hospital, he was seen, and his condition ascertained as follows:—His general health was good; his stump was sound, and sustained direct pressure on a peg leg, without pain or uneasiness; he was able to follow his former occupation of mixing mortar for the masons.

*Case 9.*—Jno. McAuliff, æt. 13, was admitted to the Hospital, April 30, 1852, with his right leg severely crushed, by two bars of railroad iron falling upon it, a short time before he came in. The patient's general condition being favorable, the limb was amputated by Dr. Buck, at the knee joint, about four hours after admission. The flaps were made anterior and posterior, and the ends of the condyles were sawed off, and the cartilage removed, by paring, as far as possible, from the articular extremity of the femur. The edges came together without tension, and the wound was dressed in the usual manner. Slight feverish reaction followed the operation, with some swelling and heat about the stump. About ten days after the operation, matter was found over the external condyle, and let out. He improved from this time, the stump healing slowly. About the first of June, he had an attack of fever, with much discharge from the stump. July 12th. The discharge has all ceased. Aug. 7th. The wounds are healed. Aug. 18th. He was discharged, cured. He has been lost sight of since leaving the house, and no account can, therefore, be given of the degree of use he can make of his stump.

*Case 10.*—Adolphus Bullenburg, æt. 34, a Prussian, was brought into the Hospital, August 7th, 1855, having been injured about five hours before, by being run over by some

railroad cars. There was found a comminuted fracture of the left arm, a little above its middle, and a severe compound comminuted fracture of the right leg. The injury of the leg was so severe, and so near the knee joint, that the only choice lay between amputation above, or through, the joint. The latter was performed by Dr. Halsted, making a large anterior, and a smaller posterior flap. Very few vessels required ligature, and those which did, were so close together, that all of the threads were brought out through a small cut in the posterior flap; so that, when the edges of the wound were brought together, there were no threads between them, to interfere with union. His general condition was pretty good, as far as regarded any prostration from injury, but it was ascertained that he was, at the time of the operation, and had been for some days previous, suffering from delirium tremens. This very unfavorable complication continued after the operation, with aggravated severity. In fact, he showed no sign of amendment at any moment. He continued in an agitated, semi-comatose delirium, sinking gradually, in spite of opium, stimulants, and nourishment, until the 11th, when he died, apparently worn out by his constant convulsive movements. No special appearances were noted about the stump, though the fractured arm had, from his constant movements, become ecchymosed and enormously swollen.

Dr. I. Moses, formerly house-surgeon of the New York Hospital, now of the medical staff of the U. S. Army, reported before the Pathological Society, at its meeting, June 23rd, 1855;—

*Case 11.*—Jesus Senno, a Mexican, æt. 26 years, received a gunshot wound of the left leg, fracturing the tibia, in June, 1854. He was seen by Dr. Moses, November 22nd, who found the whole leg much swollen and hard, skin rough and scaly. Along the whole course of the tibia, the skin was thin, with numerous openings, discharging a greenish, unhealthy matter, the probe everywhere indicating dead bone. His health was feeble, and he was suffering from an

attack of intermittent fever. He was conveyed to the Hospital, and placed upon quinine and good diet. By this means, his condition was improved, and Dr. Moses determined to remove the limb. As there was no disease about the joint, and as he thought there was sufficient healthy tissue to make a posterior flap, he selected the section at the knee joint. The disarticulation was effected in less time than is required in the ordinary operation in the continuity. Hoin's method was adopted. After making the flap, it was found hard, fibrous, and degenerated into a substance resembling cancerous matter. It was necessary to dissect off this substance, before the flap could be made to cover the stump. The articular surface of the femur was perfectly healthy, and both it and the patella were left untouched. The flap fitted well, and was secured by stitches and adhesive plaster. After the operation, stimulants and quinine were freely administered. The stump was dressed December 1, and presented a healthy and beautiful appearance. No untoward circumstance occurred to impede his recovery, and on the 4th of January, about six weeks after the operation, he left the Hospital with the wound entirely healed, and the stump so firm and painless, that he rode home on horseback.

Dr. Stephen Smith, in the No. of this Journal for November, 1852, has presented in connection with a very interesting case of knee-joint amputation, performed by Professor Willard Parker, a complete outline of all the well-authenticated experience, on this subject, of all the surgeons of Europe, and of our own country. To this paper, which forms one of an admirable series of contributions to statistical surgery, I am indebted for the following additional cases, in which the amputation in question has been performed in this country.

*Case 12.*—John McNiell, æt. 25 years, a native of New York, of good health and habits, presented himself to Dr. Parker, on the 7th April, 1852, with an atrophied and deformed limb, the result of an attack of scarlet fever, at four years of age. The patient's wish was to have his paralyzed

and useless limb made more serviceable by amputation, and the substitution of an artificial leg. The case appearing to be a favorable one for amputation at the knee joint, this operation was performed, by making a short anterior, and a long posterior, flap. The patella was dissected from its attachments and removed. Five ligatures only were required, and the stump was dressed in the usual manner. The case progressed favorably for several days, when, on the fifth day, slight hæmorrhage occurred from the stump. It recurred on the sixth day, when it was necessary to open the wound, and tie two cutaneous vessels. During the next five days, everything went on well; but hæmorrhage again returned on the eleventh, twelfth, and thirteenth days, when a ligature was placed round the femoral artery. This arrested the bleeding, and everything again went on favorably, till the twentieth day, when hæmorrhage again came on so freely, that it was thought best to re-amputate, which was accordingly done through the lower part of the thigh. The recovery from this second amputation was favorable.

*Case 13.*—This case is mentioned without detail in Dr. Smith's collection, as a man from the South, on whom amputation at the knee joint was performed, on account of a gunshot wound, and the point of operation was selected, because the surgeon had no other instrument than a razor, with which to operate. He presented himself at the college clinique. The stump was a perfect specimen of its kind, but he acknowledged that it was tender on pressure, to a manufacturer to whom he applied for a wooden limb.

*Case 14.*—A colored man, under the care of Dr. Sabine, one of the consulting surgeons of the Colored Home of this city, had gangrene of the leg, after ligature of the femoral artery for popliteal aneurism. The sloughing progressed, first separating the foot from the leg, and then extending to the knee, where disarticulation was nearly effected, when the knife was resorted to and the exsection completed. The end of the femur was but poorly covered, but the wound healed, nevertheless, in due time, leaving a stump which had

the appearance of being sound and well-conditioned in every respect. No trial of its efficiency was made, as the patient died of phthisis, six months after losing his limb.

The fourteen cases, thus far given, have occurred in the practice of the surgeons of New York, and all of them but three have been performed in this city. The following are also on record, as performed by American surgeons.

*Case 15.*—Dr. Nathan Smith, of New Haven, was the first person, who in this country performed the exarticulation of the leg at the knee joint. This case was one of a Miss R. D., who had a disease of the bones and soft parts of the leg, so extensive as to require removal of the whole tibia. The thigh being sound, the amputation was done at the knee joint, with anterior and posterior flaps of equal length. The patient recovered without the occurrence of anything unpleasant. The operation was performed in April, 1824.

*Case 16.*—M. L. Blaquiere states, that while in Mexico in 1833, he amputated, at the knee, the right leg of an Indian, in whom sphacelus had occurred from the application of hot bricks during the cold stage of cholera. He expresses himself as well-satisfied with the operation, for though the ruff of integuments, intended as a flap to the condyles, sloughed away, and the cartilage exfoliated, yet the wound healed, and the patient had a very serviceable stump.

*Case 17.*—Professor Pancoast, in 1841, removed the leg of Rachel Morris at the knee joint, in the Pennsylvania Hospital, for necrosis of the entire shaft of the tibia. He operated by making two posterior and one anterior flap, or as it might be better described, an anterior and posterior flap of nearly equal size, with the posterior flap split up along the middle of the popliteal space, a proceeding probably suggested by the irregularities of the healthy integument, left below the joint. The cicatrization was complete in four weeks, and was unattended by a single bad symptom. From the shortness of the flap one of the condyles became exposed, and the changes in the articular cartilage could be observed. Dr. P. says : “ This structure neither reddened nor became pain-

ful, so as to exhibit any coating of synovial membrane, or other appearance of organization. It became by the end of a week softened and pulpy, on its free surface, in the same manner as occurs when the joint is subjected to the macerating tub of the anatomist. The pulpy lamina, which was so soft as to leave a track when rubbed with the end of a probe, was insensibly removed with the discharges, by a continuation of the same process of softening and removal; the thin lamina of bone, covering the articular face of the condyles, was completely bared of cartilage, in the third week. This lamina first presented a dark gray aspect; some small gray conical elevations, soon after, made their appearance on its surface, and shortly grew into florid healthy granulations, to which, and to other granulations which sprang from ends of the conical ligaments, the cutaneous flaps were ultimately firmly united. No appearance of synovial inflammation of the bursa about the joint, was manifested during the treatment, and the patella remained moveable on the upper anterior surface of the condyles. The line of cicatrization was drawn backwards, by the hamstring tendons, so as to be opposite the notch, between the condyles; and the patient now preserves a useful limb, with which she moves about with great ease and facility, by applying a healthy surface of skin covering the condyles, upon a hair cushion at the top of the ordinary wooden leg."

*Case 18.*—Dr. Catley, of Delaware, reports the following case:—Mr. Schmel, æt. 33, about thirteen years previous to the time of the report, received a severe lacerated wound of the popliteal space, involving the artery. It occurred in a fall from his horse, the animal stepping on him while prostrate. The effect of this injury, aided by a tight bandage applied to stop hæmorrhage, was to cause mortification of the leg up to the knee. The operation of disarticulation at the knee joint was performed. The soft parts, however, sloughed about two inches higher up, leaving the bone nearly naked. This, in time, was mostly covered by an imperfect cicatrix, which, however, never became sound, though during about twelve

years he was able to perform some labor. The stump becoming, during the last year previous to the report, more troublesome, and the cicatrix assuming the character of a bleeding fungus, amputation through the thigh was resorted to, and the patient had a fortunate and complete recovery.

In studying the history and watching the progress of these cases, ten of which have come under my immediate observation, the following considerations have presented themselves to my mind, as favorable points of comparison between this operation, and that through the continuity of the femur :—

1.—The crowning advantage of an amputation through the knee joint, over an amputation through the femur, and the consideration to which all the others are subordinate, and from which they derive their main importance, is, that the stump left, by the former operation, is a useful one, while that left by the latter is a useless one, for any purposes of progression. Those who have not been in the habit of observing the adaptation and working of artificial limbs, may not be aware that in the stump left after amputation through the thigh, no pressure can ever be borne upon its extremity, be the bone ever so well covered by soft parts. The extremity of the bone is so small, that any pressure upon it, sufficient to assist in sustaining the weight of the body, would soon be followed by ulceration, and protrusion through the cicatrix. In these cases, the artificial limb is so arranged, that the support of the body takes place at the hip, by bands passing round under the tuberosity of the ischium, and round the throchanter ; so that, in fact, the patient sits in a sort of cushioned ring, carefully adapted to fit these two bony prominences, while the stump of the femur is received into a conical opening of the artificial thigh, and is only used to direct the forward movements of the limb, and to steady the apparatus, which is bound to it laterally, as firmly as it will bear. It is evident, therefore, that in this apparatus, the patient walks, as Velpeau remarks, as if he had an anchylosis of the hip-joint, all his motions being made by the pelvis, and not at the coxo-femoral articulation.

This mode of progression, as may be conceived, is not only exceedingly awkward and ungainly, but so laborious, that very few persons have strength enough to walk, under these circumstances, with any freedom, or to any great distance. These remarks apply to those who have the means of commanding an artificial limb of the best construction; but, to the laboring man, amputation through the thigh is an absolute and inevitable condemnation to the crutch for life. On the other hand, the stump left after amputation at the knee, if it be a good one, is perfectly capable of sustaining the pressure of the body, on a simple cushion. This fact is so fully demonstrated by the cases published, both here and abroad, that I need only allude to it as an ascertained thing, that in the majority of cases, the amputation at the knee leaves a stump upon which the patient, with the help of a wooden leg, can walk as well as when the limb is amputated below the knee. To the poor man, this single circumstance makes all the difference, between his being able to earn his living by active employment, and his being laid by for life, a hopeless cripple. To the rich man, who is able to secure the aid of an artificial limb, it makes the difference, between a point of support at the knee, and a point of support at the ischium; in fact, it is practically the difference between amputation below, and amputation above, the knee. In conversation with Messrs. Palmer & Co., I was informed that their expressed objections to an amputation at the knee joint were founded on the supposition, that the end of the stump could not be used as a point of support. This objection being removed, they acknowledge that the knee-joint operation presents the advantages alluded to.

2.—The operation at the knee, is farther from the trunk than that through the thigh, and is, therefore, probably attended with less constitutional shock or depression. I say, probably, because this is not a fact which is positively proved by statistical deduction; but, at the same time, it is so entirely in accordance with analogy, and so consonant with the opinion and practice of surgeons, in other cases, that it



may safely be taken for granted till disproved. I would, myself, be disposed to go further, and say, that from the nature of the parts cut in the two cases, the thigh operation, where enormous surfaces of muscular tissue are divided by the knife, would be much more depressing to the powers of life, than the knee operation, where almost nothing but integument is involved in the incisions,—a consideration which might be of moment in a case where, from shock of injury, or from hæmorrhage, the reactive forces were so reduced, that a single ounce of blood, or a single degree of further depression, might fearfully compromise the favorable issue.

3.—The section at the knee joint is, in reality, less extensive than in amputation higher up. No parts are cut but the integuments, and though a large surface is exposed when the flaps are complete, it must be remembered that a great portion of that surface consists of the cartilaginous covering of the femur, a natural, not a wounded surface, and whatever inflammatory changes we might *a priori* fear would take place in it, yet experience thus far clearly shows, that this surface plays almost a perfectly passive part in the earlier processes, finally accommodating itself to the adhesive reparative actions, in a manner which is not entirely interrupted under the most unfavorable circumstances of exposure and suppuration.

4.—In the operation we are advocating, no muscular interspaces are exposed by the knife, excepting those of the heads of the gastrocnemius, which muscle being divided near its origin, are of small extent and depth. There is, therefore, less chance of suppurative inflammation traveling upwards, in case such inflammation attacks the surface of the stump; for it is a well-known fact, that it is along these interspaces, and among their soft areolar tissue, that abscess is most apt to burrow up the thigh, when the operation is done by section through the bellies of these muscles. The muscles moving the leg upon the thigh are, it is true, divided; but it will be observed, that the quadriceps extensor is divided through the

ligamentum patellæ, and the flexors, as well as the gracilis and sartorius, are cut at their tendinous portions, and immediately retract in their sheaths, so as to be entirely out of the way; and it is well known, that a clean cut of healthy tendon is almost never followed by any but the simplest and most healthy reparative action.

5.—The operation at the knee joint requires fewer ligatures than amputation of the thigh, and these few consisting usually of the popliteal, the two sural, and the two inferior articular arteries, are cut in such a manner, that their orifices are all close together in the centre of the popliteal space. By making, therefore, a small opening through the integument, of which alone the posterior flap consists, we are enabled to bring all the threads out of the stump, by a short and direct route, in the most depending position, and thus the space between the flaps and the condyles, where we are most anxious to procure adhesive inflammation, is not fretted into suppuration, by the presence of the ligatures crossing it, to be brought out between the lips of the wound.\* This procedure, it will be noticed, was adopted in several of the cases. In several instances, no vessel in the anterior flap required ligature, thus leaving the posterior leash of ligatures the only ones in the stump.

6.—In the knee-joint operation, the muscular attachments, which are concerned in the movements of the limb, are not divided. Those which are severed are merely for the movements of the leg, all the muscles proper of the thigh being left untouched. A singular circumstance results from this, viz.: that the patient is able to move the stump with a freedom and facility which is astonishing. I have already alluded to this, in the case of the little child on whom I operated, and the same thing was strikingly noticeable in my second patient,—case No. 3,—so much so that, within a week after the operation, even before the first inflammation had subsided, he was able, with ease, to lift up, and hold up, his

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\* This method of bringing out the ligatures through the posterior flap was first suggested and adopted by M. Blandin.

stump, without assistance, to be dressed. From this, also, it happened that the twitching and jerking, so common and so painful in all newly-made stumps, gave him but little pain, and the little he did suffer seemed to be, mainly, from the stump being drawn up against the bed-clothes, and was entirely prevented by a band passing over the middle of the thigh, and fastened loosely to the bed, so as to prevent the stump from rising high enough to strike the coverings above.

7.—An advantage belonging to the knee-joint section, which may be considered as directly resulting from the last-mentioned, is found in the fact, that no retraction of the cut muscles can take place after the healing of the wound; by which gradual retraction, it is well known that the muscular covering is generally withdrawn from the end of the bone, and what is called a conical stump is left, in which nothing covers the bone but integument or cicatrix tissue. My own experience would lead me to think that, in all cases where divided muscles are united over the end of a bone, as in flap amputation through the thigh, the ultimate result is a complete disappearance, by combined absorption and retraction, of the muscular tissue, which, on the first healing of the wound, gave a thick and promising covering to the end of the bone. If I be not mistaken, it will be found, if the limbs be examined a year after they are healed, that the conical stump above described is the rule and not the exception, and that, in four cases out of five, nothing but cicatrix tissue covers and protects the end of the bone. In the stump left by the exarticulation at the knee we have, it is true, nothing but integument on the face of the stump, but that integument is applied over a large, smooth, natural surface, well adapted to receive and sustain pressure, while the cicatrix, if the operation be properly performed, is thrown backwards in such a manner as to be entirely protected from pressure, in the deep fossa between the projection of the condyles.

8.—Last, and not least, of the advantages which the knee-joint section promises over the thigh amputation,

is, I think, to be found in the fact that, in one, the bone is unwounded, and that in the other it is severed with a degree of violence, the effects of which, perhaps, are not fully appreciated. The effects of this violence, both upon the bone and its envelopes, and of the exposure of the cavity of the medullary membrane, to the action of air and pus, are seen in several of the accidents which occur after amputation, some of which are merely of sufficient gravity to annoy the patient, and prolong the period of his cure ; while others are of so great severity and danger, as materially to influence the safety of the operation, with regard to life. Thus, for example, among the slighter mischiefs of which the injured bone is the source, we have the exfoliation of a narrow ring of dead bone, which has been killed by the direct violence of the saw. The separation of this ring, with its attendant suppuration, keeps the wound unhealed, and the parts around, tender and painful, until the process is complete and the dead bone comes away, perhaps during twice or thrice the period which would be necessary to heal the wound without this complication. Another, and much more serious, trouble is found in the formation of those long tubular sequestra, which are sometimes found in stumps, two or three, or even four, months after amputation. The existence of these peculiar sequestra, has attracted the notice of most of the systematic writers on surgery ; but I have not met with any explanation of the mode in which they are produced, except that Mr. Syme alludes to them, as produced by injury done to the medullary membrane, by which the bone, nourished by that membrane, dies and exfoliates in a tubular form. This is, unquestionably correct, as far as it goes ; but it leaves unexplained, the nature of the injury to the membrane in question, which has such important consequences. This injury may be the result of suppurative action extending along the membrane, and separating it from the bone ; but, if this is a possible explanation, the absence of all symptoms of undue inflammation in the cases which have occurred in our Hospital, forbids its

being received as the usual cause of the mischief. I regard it as produced by the severing of the nutritious arteries of the bone, either by the saw, while it is passing through its bony canal, or by the catlin, before it has reached the nutritious foramen.\* The supply of blood thus cut off from the medullary membrane, can only be restored by the anastomosis which it has with the vessels of the spongy portion above. These vessels, however, are supplied with blood from small twigs, which enter the bone at various points around the extremity, and, of course, are contained in unyielding canals. The necessary increase in their calibre, therefore, to supply the wants of the medullary membrane, can take place but slowly, and, in the meantime, the small vessels which the medullary membrane sends into the bone are not properly filled, and the death of the bone is produced up to the point where the anastomotic supply is sufficient to save it. The medullary membrane itself, probably, never dies from this cause; but is gradually restored by the supply from above, and goes on secreting new bone on the inside of the sequestrum, while the periosteum is converting the old bone into a thick involucrum outside, so that when it is ready to come away, the sequestrum is found enclosed in a double cylinder, formed by the periosteal involucrum outside, and a smaller medullary involucrum within. These sequestra vary in size, from three to seven, or even in one instance on record, to nine inches in length. They are, most commonly, complete cylinders with here and there an opening through them. Through these openings bony granulations may sometimes shoot, if the sequestrum be left too long, by which it may be locked fast in its bed, and may require a serious and troublesome operation to extricate it. While thus remaining in the stump, these pieces

\* In order to satisfy myself as to the usual point of entrance of the nutritious artery into the bone, I examined forty-five femora, contained in two of the Museums of this city, and found that in twenty-three, the nutritious foramen was about the junction of the middle and upper third, and in twenty-two, it was at, or near, the centre of the bone. In several instances it was double. The direction of the canal is always from below, upwards.

of dead bone produce all the annoyance, to which necrosis of the shaft of the long bones always give rise. The wound does not heal; the end of the stump enlarges by the new bony deposit which forms the involucrum; and extensive suppuration continues from the various sinuses which lead down to the bone, while new abscesses are constantly forming. The suffering and discharge thus continuing are sufficient to keep the patient in a constant state of constitutional irritation, which, in a feeble person, might have the most serious, or even fatal consequences; and his only relief is to be found in a removal of the cause of offence. When this is taken away, (and it can usually be done by seizing the exposed end with a strong pair of forceps, and drawing the sequestrum carefully from its bed,) the relief is immediate; the suppuration dries up, the abscesses heal, fever ceases, and the stump rapidly heals. I have dwelt more particularly on this accident, because there is but little said of it in our surgical treatises, and I think it must occur more frequently than is commonly supposed; indeed Mr. Syme makes this one of the considerations which induced him at one time to proscribe, altogether, amputation through the middle, compact portion of the shaft of the femur, he insisting that, to avoid this, as well as other accidents liable to occur in amputation through the middle of the thigh, it was better to make the section of the bone sufficiently high up to pass through the spongy tissue, which has sufficient vitality to enable it to resist the dangers liable to happen when the compact structure is sawed through.

The effects of this violence to the bone, and of its exposure in a suppurating wound, are also more seriously and more fatally exhibited in those cases where, from some previous vitiation of the system, phlebitis attacks the bone with its destructive, and often rapidly fatal consequences. Happily, in our well-ventilated and healthy hospitals, we very rarely see instances of this disease; but, if we may credit the report of some of the surgeons of Europe, suppurative phlebitis of the bones, is, with them, a common

cause of mortality after amputation of the limbs in their continuity.

I do not know that there is any analagous accident likely to happen to the bone after knee-joint amputation. In two of our reported cases, exfoliation of the cartilages took place, where, from sloughing, or retraction of the flap, the end of the bone had long been exposed, and in Dr. Catley's case, (No. 18,) from the same cause, the cicatrix never became perfect; but, besides these cases, no other inconvenience is recorded as having arisen from any affection of the bone or of its cartilage, though, in several instances, there was more or less exposure of the articular surface from retraction or deficiency of covering. In Dr. Smith's summary of European cases, nothing is said of the bone or cartilage, having, in any instance, interfered with the progress of the cure.

Having thus presented, somewhat in detail, the advantages of the amputation under consideration, as illustrated by the cases presented, I do not consider it necessary to dwell upon the objections which have been urged against it. These objections are mainly derived from the fear which has existed of opening so large a joint as the knee, in view of the terrible consequences which are so apt to follow even slight injuries of this articulation. Experience shows that these apprehensions are unfounded, and, as Dr. Stephen Smith very correctly remarks, proves, "that the dangers from exposing a joint for the purpose of disarticulating a limb, whether of shock to the system, or of severe inflammation and suppuration, are unimportant, in deciding the question of the general propriety of this operation. Fearful as are the results of the inflammatory process, instantly lighted up in ordinary wounds of the knee joint, dangerous consequences from this source are rare exceptions in the severer wound of the bisection of this articulation in amputation." The reason of this appears to me evident, when we consider that the peculiar dangers of inflammation of the knee joint arise mainly from three things. 1. The extent of the synovial membrane. 2. The constant motion of the

inflamed surfaces on one another. 3. The closed character of the part inflamed, by which tension is immediately produced, as the products of inflammation begin to be retained. The section of the joint greatly diminishes the first of these sources of danger, and entirely obviates the two last. In short, after the operation it is no longer a joint, and it is, therefore, unphilosophical to expect that it should present the characteristic dangers of diseases of the joints.

It must not, in candor, be denied, that the synovial sac, remaining around and above the patella, is liable to become inflamed, and that, from this inflammation, serious consequences may arise. This accident has not presented itself to any very alarming degree, in the American cases above reported, but M. Velpeau speaks of it as having been the cause of a fatal termination in several of the cases which came to his knowledge.

The published cases of this operation are too few and too incomplete, to afford us the data for a thorough appreciation of its value, as deduced from statistical comparison. The number, however, of foreign and American cases taken together is sufficiently great to tell very authoritatively on the general question of its fatality, as compared with amputation through the thigh. Thus we have, taking Dr. Stephen Smith's resumé of the cases occurring in foreign practice, 23 cases of this amputation, out of which 12 died, and 16 recovered. To these add, of American cases, in all 18, of which 13 recovered, and 5 died. Making in all 46 cases and 17 deaths. The proportion of deaths in foreign practice is 43 per cent.; in American practice, 28 per cent.; and of all the cases 37 per cent.

Comparing this with the rate of mortality of the amputation of the thigh, we have out of 987 cases collected by Mr. Phillips, 435 deaths; and in 68 American cases which I have collected, we have 29 deaths; making an average mortality out of this large number of cases of about 43½ per cent. Thus we have, to collect these statistics in a tabular form :



Knee Joint.	Whole No.	Deaths.	Per centage.
Foreign practice,	28	12	43
American practice,	18	5	28
Both together,	46	17	37
Thigh.			
Phillips' cases,	987	435	44
American cases,	68	29	43
Both together,	1055	464	43½

making a difference of 6½ per cent. in favor of amputation at the knee joint.

It should be noticed in passing, that of the five fatal cases which occurred at the New York Hospital three died within a few days, from the direct shock of the injury, and one from the progress of the disease, which the operation had not been able to interrupt.

Of the different modes which have been proposed of performing the operation, I should give a very decided preference to that by the long anterior, and the short posterior flap. This has the advantage of throwing the wound on the most depending aspect of the stump,—thus allowing easy exit to the discharges; and it, moreover, brings the cicatrix so far back between the prominence of the condyles, that it is not exposed to pressure. By cutting short the gastrocnemius muscles, it diminishes the number, and concentrates the situation, of the ligatures, so that they can be brought through the posterior flap directly, without traversing the face of the stump. It will, however, often happen, that the mode of operation will be determined by the condition of the integuments; and it is, therefore, fortunate that the success or failure of the case does not essentially depend upon the particular method adopted. In all cases, it must be borne in mind that a great deal more flap is required, to cover the ends of the condyles, than to cover a bone sawed through its shaft; and the most common mistake, in performing this operation, has been the not making

due allowance for this circumstance, and, consequently, cutting the flaps too short.

It will be observed, that I have not, in this communication, referred particularly to the labors of Velpeau, or any of the European surgeons, though so much has been said and done by them in this matter. I have done this, because:—

1. The labors of these men are fairly before the world, known and read of all men, and have particularly been laid before the American public by Dr. Stephen Smith, in the valuable paper to which I have so often referred. 2. It was our own American experience which has accumulated since Velpeau wrote, that I wished to bring to the notice of the profession, and to fortify, by it alone, the conclusions to which I have been led, as to the value of amputation through the knee joint. It is but justice, however, to my subject, that I should still further strengthen my position, by the authority of such names as Syme, Fergusson, Velpeau, and Malgaigne. I class Mr. Syme and Mr. Fergusson among the advocates of the knee-joint operation, because, although the operation which they perform—immediately above the articular surface—is not, strictly, an amputation through the knee joint, yet, as far as the soft parts go, it illustrates many of the principles of that operation, and is, therefore, most closely allied to it. The two great French surgeons above named, are unequivocal in their verdict. Velpeau, when he wrote his first essay, in 1830, on this operation, went so far as to regard it as to be preferred even before amputation of the leg. This extravagant opinion a larger experience modified; and in his work on surgery, in giving his final appreciation of the operation, after advocating it strongly in all proper cases, when it can take the place of amputation on the thigh, he says, it should never be undertaken when it is possible to amputate lower down. Malgaigne says, in a passage quoted by Dr. Smith, that this is “another of those operations too inconsiderately condemned, which, when you have a choice, should be preferred to amputation of the thigh in the continuity.”

It will be observed, that throughout this discussion, the only comparison instituted has been between the operation under examination, and that through the thigh. It must be carefully borne in mind, that it is only when the alternative is between the thigh and the knee that this operation can ever be considered justifiable ; and that, under no circumstances should it be performed, when amputation below the knee is in any equal degree safe or allowable.

In recapitulation of the points advanced in this paper, it would appear :—

1.—That the amputation at the knee joint has been regarded with disfavor, and rejected by the mass of the profession.

2.—The results of experience seem to warrant and demand a re-consideration of this unfavorable verdict.

3.—It is found, that the stump left after this operation, is much more useful than that left after amputation of the thigh, it being capable of bearing well, and easily, the weight of the body on an artificial limb—a consideration involving great comfort to the rich man, who wears an artificial limb ; and on the poor man, who must otherwise walk with a crutch, conferring the power of walking on an ordinary peg leg, thereby enabling him to earn his livelihood.

4.—This amputation is, probably, attended with less constitutional shock, inasmuch as it is performed farther from the trunk than amputation through the thigh.

5.—The wound made in section of knee joint is really less extensive than in amputation higher up.

6.—No muscular interspaces are exposed by the knife, and, therefore, there is less danger of inflammation spreading up the thigh.

7.—Fewer ligatures, and those more favorably situated, are used in this operation.

8.—The muscles moving the stump are not severed, and the patient is able, therefore, to move the stump, with extraordinary facility, and is but little liable to painful muscular twitchings.

9.—No retraction of muscles can exist, by which the coverings are drawn back from the end of the bone, producing conical stump.

10.—The bone is unwounded in this amputation, and thus the numerous and serious dangers, which arise from sawing the bone, and exposing its medullary cavity to air and pus, cannot exist.

11.—The dangers apprehended from opening so large an articulation, have been very greatly exaggerated, and are, in practice, found to be of rare occurrence.

12.—Statistics show that the mortality, after this operation, compares favorably with amputation of the thigh, being 37 per cent. of deaths in the former, against 43½ per cent. in the latter.

13.—The best mode of operation, when we have a choice, is by the long anterior, and short posterior, flap.

14.—The verdict of some of the first French and English surgeons, is decidedly in favor of the knee-joint operation.

NEW YORK, December 13, 1855.

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ART. III.—*Analysis of One hundred and Thirty-one Cases of Hydrophobia.*\* By J. LEWIS SMITH, M.D., Physician to the North-western Dispensary.

(Continued from Vol. xv. page 245.)

BEFORE proceeding to an analysis of the symptoms, it is well to recollect that the published records of diseases are ordinarily very incomplete. Physicians do not as a general thing in their reports of cases, mention negative facts, in other words, the absence of symptoms; and those present, unless of a striking character, are often overlooked. If, then, in our investigations, we find a phenomenon or an appearance which might easily escape notice, to be recorded in several, though a minority of the cases, and its absence mentioned in few or none, we may justly consider it of frequent occurrence in the disease.

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\* Read before the Society of Statistical Medicine, New York.

## PRODROMES.

It will be seen, by reference to the table, that in a large number of patients, at least one hundred, there were preliminary symptoms, of longer or shorter duration, before the commencement of hydrophobia. Eight had no premonition of the approaching evil, or, if any, so slight that it was disregarded, and they were seized unexpectedly. In the remaining number it is uncertain from the histories given whether a prodromic stage were present or absent.

In forty-three of the one hundred, the prodromes were of a character, to indicate unmistakably the approaching disease. An unnatural sensation was felt in, or adjacent to, the bitten part, accompanied often by symptoms of general indisposition, as langor, chilliness, and headache. Nine, called this sensation, an "*uneasiness*," an "*itching*," or a "numbness;" in the others it was pain, variously described as piercing, stinging, pricking, tingling, and again as dull.

These sensations, if seated in a limb as was usual, gradually extended towards the body, sometimes shooting upwards, but in other instances abandoning the first point of attack, and seizing on one more central. Hydrophobia appeared to begin when this condition of the nerves had reached the trunk. In one instance only was the direction eccentric rather than centric. This patient (No. 27) complained that the pricking sensation rushed to the tips of his fingers.

The pain I have no doubt was neuralgic; in other words, unaccompanied by inflammatory action. Its manner of extending would indicate this, and it was generally so considered by the physicians who attended and reported the cases. In many of the records it is described as following the course of the nerves.

The numbness, uneasiness, or itching, complained of by nine, was, with one exception, seated in the cicatrices, and may have been due to some molecular change, especially as the bitten part occasionally undergoes a visible alteration at the access of hydrophobia. The exceptional case occurred

in the practice of Mr. Abernethy, who noticed two red lines extending up the arm, apparently inflamed absorbents. In this instance the inflammation may have caused the sensation.

This unusual appearance occurring in the practice of the distinguished London surgeon, lent strong support to the theory, that the poison may be inert in the wound till the period of recrudescence. But as a similar phenomenon was noticed in no other instance in the collection, it is more probable that the red lines were due to the extension of ordinary inflammation from the wound, which had been made very sore by cauterization, and had not yet healed, than that it arose from progressive absorption of the poison. Although digressing, we may as well add in this connection, as bearing on the doctrine of absorption, that in two cases, (Nos. 2 and 90,) the glands above the wounded part were found in a swollen state when hydrophobia commenced, but in at least two others they were unaffected.

Pain in an upper extremity was felt by seven patients, besides those mentioned, but whether it corresponded with the side injured, is not apparent from the records.

The same symptom was also occasionally present, without sustaining any relation to the bitten part. Six felt it in the head, three in the epigastric region, one in the teeth, one in the throat, two over one side, one over the whole body, and two had shifting pains.

The following table embraces all the other prodromes published in the records :

In 13, General indisposition.

“ 12, Irritability.

“ 20, Restlessness.

“ 9, Drowsiness.

“ 14, Chilliness.

“ 5, Feverishness.

“ 11, Languor.

“ 5, Anorexia.

“ 6, Some affection of respiration, as sighing, sobbing, etc.

In 7, Difficult deglutition.

“ 1, Excitation of the venereal passion. .

The symptoms, then, which precede an attack of hydrophobia, are, for the most part, such as usher in an ordinary febrile disease, conjoined often with pain, or other sensation referable to the bitten part.

I have found it difficult to determine accurately, the duration of the prodromic stage; but the following table furnishes a near approximation to the truth :\*

Cases.	Durat. of Prod.
In 8, - - -	Few hours.
“ 3, - - -	6 hours.
“ 11, - - -	12 hours.
“ 24, - - -	12 hours to 1 day, inclusive of latter.
“ 22, - - -	1 day to 2 days. “ “
“ 11, - - -	2 days to 3 days. “ “
“ 9, - - -	3 days to 6 days. “ “
“ 4, - - -	6 days to 12 days. “ “
“ 1, - - -	Few days.
“ 1, - - -	Several days.
“ 1, - - -	Several weeks.

As with most other diseases remarkable for violence and rapidity, we see that the precursors of hydrophobia are transient, and often of a character likely to excite no suspicions.

#### SYMPTOMS.

The striking and characteristic symptoms of hydrophobia, those which produced the chief suffering of the patients, and rendered the disease so appalling to beholders, were paroxysmal in their occurrence. In the first stages of the complaint, a sensation of choking, or oppression of the chest, was experienced, lasting for a moment, and causing a degree of restlessness. As the disease advanced, these

\* The table of cases, published at the commencement of our article, contains three errors, through misprint. In No. 49, 112 days in the column of prodromes should be  $1\frac{1}{2}$  days; and in Nos. 123 and 127, the times given as occupied by the prodromes and disease respectively, were occupied by the two conjointly.

attacks became more severe, and the intervals shorter. In severe cases the struggles at each seizure were terrific, arising, according to the statement of the patients, themselves, from a feeling of present suffocation.

The proximate cause of the attacks, was a spasm of certain muscles ; though, from the nature of the disease, it was difficult to tell exactly, which, or how many. The sufferer often referred to the throat as the seat of his distress, and the muscles in this region were, sometimes, visibly in a state of spasmodic action. Occasionally a constriction of the chest was complained of, as in Nos. 18, 42, and 44 ; or, across the abdomen, as in Nos. 45 and 50, leading to the belief that the thoracic and abdominal muscles were involved. The diaphragm, especially, was thought by some of the physicians, to be affected, while the fact that the patients could rush from bed and grasp objects in the midst of a paroxysm, showed that the extremities were exempt. In many instances the head was violently jerked backward in the spasm, and as this often accompanied futile attempts to drink, one was forcibly reminded of fabled Tantalus amid the refluent waves.

The commencement of the paroxysms was abrupt, and their duration generally, if not always, brief. The intervals between them varied. Sometimes there were several hours of undisturbed rest ; but, in other instances, the succession of attacks was so rapid, that one had hardly ceased when another commenced. There was not, however, so great a difference in the severity of different cases, as in the various stages of the same case.

In a large number, the paroxysms after continuing for a time, subsided, or recurred less frequently. Sometimes the remission was temporary ; but in other instances, permanent, especially if there were much exhaustion. This abatement should be properly appreciated, for the medical attendants frequently attributed to treatment, what was due to the nature of the disease, and the friends flattered themselves that all danger was over, when a few more hours



brought a fatal termination. There is so little suffering in hydrophobia during a remission, that one uninstructed in the nature of the malady would be very apt to form a wrong prognosis, unless he witnessed a paroxysm.

These paroxysms sometimes occurred without any obvious exciting cause, but they were usually produced by certain means or agencies. According to the records, one hundred and seven patients experienced them through the influence of liquids, and in no place is it stated that such substances could be tolerated through the whole sickness, while those records that are silent on this point are, for the most part, brief and incomplete. Contrary, then, to the assumption of some, that the dread of liquids is of occasional and not uniform occurrence in rabies, it is so uniformly present as to justify us in retaining the name which has so long designated the disease, both among professional and non-professional people.

The manner in which liquids produced this effect, varied. At least eighteen patients were thrown into a state of agitation or spasms by the mere thought, and thirty-five by the sight of them, while the same result followed with sixteen more if they were poured or splashed in the room.

This morbid sensibility, so apparent in the nerves of sight and hearing, was also present in those of touch. In one instance, a drop of oil falling on the leg caused spasms, and the same occurred in three from a drop or a few drops of water falling upon the body. Witness, too, the extreme distress when water touched the lips.

Tepid drinks could usually be taken more easily than cold, and sometimes, not always, other liquids, as tea and coffee, more easily than water.

It must not be supposed that the distress on attempting to swallow, was limited to the use of liquids. On the other hand, solid articles of diet, although it does not appear that they produced any unusual symptom by their mere presence in the room, or by being handled, could be taken as food only with the greatest difficulty, and sometimes not at all.

Agitation and spasms followed attempts to eat, as well as to drink. It appears, however, that ordinarily, solid aliment could be taken more easily than liquids, although in one case (No. 51) the reverse was true.

The records of seventy-two cases state that these remarkable attacks were likewise induced by other causes than by food or by liquids. Fifty-one experienced them from currents of air. Raising the bed-clothes, blowing, or even breathing upon the face, brushing away of flies, the movement of friends in the room; in fine, anything that produced the least agitation of the air, caused the characteristic phenomena.

The same symptom occurred, in eighteen patients, from the presence of bright objects. A light, a polished surface, a bright color, especially if suddenly introduced, were sufficient causes.

In the records of twenty-seven cases it is stated that the same effect was produced by other causes than those mentioned above, among which we may notice the entrance of strangers into the room, an unexpected noise, the sudden descent of smoke from the chimney, the vapor of ether and chloroform when these agents were used, and pungent odors, as that of musk.

We see that that remarkable condition in hydrophobia which has given the disease its name, instead of being simply a dread of liquids, as is popularly thought, is a spasmodic action of certain muscles, induced by many causes, among which liquids have a prominent place.

It has been said by some that delirium is present in hydrophobia, and by others that the intellect preserves its integrity throughout. The condition of the mind is recorded in eighty-five cases, in sixty-eight of which it was unimpaired. Of the remaining seventeen, seven were rational till a short time before death, when they became violent, or their thoughts wandering and incoherent; seven are stated to have had occasional or transient delirium, and of the remaining three whose sanity was unquestionably gone, two were in the wards of hospitals, and the other had been taking Indian hemp in large doses.

A moment's reflection, on these statistics, will convince us that the mind, in hydrophobia, is, in a remarkable degree, exempt from the destructive process to which the body so rapidly yields.

Delirium, at the close of life, is not unusual in acute diseases, especially if there be much inquietude of mind, as well as bodily suffering. Nor would it be strange if the hydrophobic spasm should cause temporary, if not continued, mental derangement. But, in truth, the patients usually had a distinct recollection of their condition in the paroxysms, so as to apologize for their behavior, showing continued sanity. It is to be recollected, too, that the extreme agitation, arising from the feeling of suffocation, might have been mistaken, and very likely was, in some instances, for maniacal excitement.

Of the three patients whose delirium was well marked and persistent, the two in public institutions were surrounded by students and the curious. Is it at all remarkable that the reason should be dethroned, under such circumstances? We should expect that the sleepless and sensitive sufferer, who is thrown into spasms by a breath of air, or an unexpected noise, would become totally crazed in such a state of annoyance and excitement. Hospital patients are treated by the great masters of our profession, who teach us the nature and phenomena of diseases; and in this instance, as in many others, we see how a limited observation of cases, or an observation under particular circumstances, may lead to the conscientious promulgation of error. The other patient had, as we have stated, been taking Indian hemp, and his delirium was such as the cannabis is known to produce. The conclusion, then, forces itself upon us, that, however much other portions of the body suffer in hydrophobia, the cerebrum is but slightly affected.

Insomnia, or a morbid wakefulness, was invariably present. There was no relief from suffering, or dark forebodings in the oblivion of sleep, unless opiates were administered in large doses; and this is the more worthy of note, because

drowsiness was not infrequent as a prodromic symptom. The lack of natural and refreshing sleep no doubt hastened the march of the disease.

The mind of the patient was usually in a state of extreme dejection, as if no ray of hope shone across his pathway. Yet, sometimes in the delusive calm which, we have said, often occurs in this disease, a degree of cheerfulness returned even when the experienced physician saw the sure prognostics of a fatal issue.

Of the other symptoms, referable to the nervous system, little need be said. Some of those mentioned as prodromic, occasionally continued for a time after the disease was developed. This was especially true of the pain.

The condition of the pulse is mentioned in 78 of the records. It ordinarily became weaker, and more and more frequent, as the disease advanced; and a remarkable feature in reference to it, recorded in twenty-three cases, was an irregularity in its rhythm. At short intervals, sometimes in consecutive minutes, sometimes in the thirds, or even quarters, of a minute, the number of pulsations underwent a marked variation. For instance, in one case, the numbers for the quarters of a minute were 32, 28, 25, and 24; and in another, for the thirds, 34, 34, and 27, and again, 40, 25, and 21. This is a fact, in reference to the pulse, likely to be overlooked, and that it was noticed in so many cases, proves it to be of frequent occurrence.

After what has been said of the paroxysms, it is unnecessary to make more than a passing allusion to the respiratory function. The breathing, except in the paroxysms, was easy and natural, and there were no symptoms of pulmonary disease. In the records of sixty-three cases, the spitting or hawking of mucus is mentioned, viscid and often expelled with difficulty. In forty-eight of the number, there is no record of this till the last day, and in none is it mentioned prior to forty-eight hours before death. The profuse flow of saliva, then, which is well-known to accompany hydrophobia, is not to be looked for till the disease is well advanced.

The condition of the digestive system was materially affected. Thirst was complained of, often extreme, and accompanied by a burning sensation in the throat. The appetite in some cases remained unimpaired, and probably it would have been more generally present, had it not been for the anxious and terror-stricken state of the patient's mind. The bowels were constipated and distended by gas, and in many there was a sensation of gas in the stomach, or of gas rising in the throat.

In at least twenty-eight cases vomiting took place; a symptom not mentioned, so far as I am aware, in the books. In all but three this occurred within a few hours of death, so as to be, an unfavorable prognostic. The substance voided was dark-colored, like coffee-grounds or chocolate, and was probably vitiated blood, which it was generally considered to be, by the physicians who expressed an opinion of its nature. This emesis resembled in many respects that occurring in yellow fever, taking place as it did during the delusive calm of debility.

So far as we can judge from the records, there was nothing unusual in the appearance of the secretions, excepting the saliva, or in the condition of the cutaneous system.

The countenance exhibited the extreme distress and anxiety felt by the patient, whilst the eye is variously described in different records as wild, staring, glassy, or sparkling, and in others as watery, suffused, or stupid. This last appearance may have been due to opiate treatment. The state of the pupil is mentioned in thirty-seven of the records; in thirty-two it was dilated, in three contracted, and in two natural. A natural condition of an organ is less likely to be recorded than one of deviation, yet the great preponderance of cases of dilation, renders it probable that this is of ordinary occurrence in hydrophobia. The enlargement if noticed in doubtful cases, may be of considerable diagnostic value. Sometimes, not always, it could be temporarily overcome by the stimulus of light, and in several recorded to

have had it, the dilation did not occur till the disease was well advanced.

The following table gives the duration of hydrophobia in 120 cases, as accurately as we could determine it from the records.

Cases.	Duration.
In 2, - - - -	12 hours.
" 21, - - - -	12 h. to 24 hours inclusive of latter.
" 65, - - - -	1 day to 2 days. " " "
" 20, - - - -	2 days to 3 days. " " "
" 9, - - - -	3 days to 4 days. " " "
" 1, - - - -	4 days to 5 days. " " "
" 1, - - - -	7 days. " " "
" 1, - - - -	9 days, " " "

The mode of death is stated in sixty-three cases. Forty-six died quietly in a state of asthenia. They grew progressively weaker, and in general the paroxysms ceased before the final event, probably from a want of vital energy. Fourteen closed life in spasms, asphyxiated, as shown in some instances by the flushed face and turgid vessels. The remaining three are stated to have died comatose or lethargic.

The following deductions will impress these facts more strongly upon the memory :

1.—Hydrophobia may occur at any period of life, but it is most common between the ages of ten and forty.

2.—More males take the disease than females.

3.—Cases occur in all seasons of the year.

4.—The period of incubation is seldom or never less than ten days, and it may reach in rare instances to five or six years. But the vast majority take the disease from the fourth to the fourteenth week after inoculation.

5.—The wound at the access of hydrophobia is, with an occasional exception, cicatrized, and when open, free suppuration is rare.

6.—The part bitten may have the usual appearance of cicatrized surfaces, or it may be of a reddish, blueish, or other color, and appear raised or swollen.

7.—The disease is ordinarily communicated by a bite, and seldom, if ever, through the sound skin.

8.—The animals inflicting the wounds, are generally rabid at the time ; but, occasionally, they show no signs of rabies. When not mad, they usually become so afterwards.

9.—The attack may be hastened by excitement of the passions, and by irregularities and excesses in the manner of living.

10.—There are, generally, but not always, well-marked premonitory symptoms of hydrophobia. These are such as usher in an ordinary febrile disease, “ conjoined, often, with pain, or other sensation, referable to the bitten part.”

11.—The prodromic stage lasts from a few hours to three or four days, and occasionally longer.

12.—The symptoms which especially distinguish hydrophobia from other diseases, arise from paroxysmal spasms of certain muscles concerned in respiration, producing a sensation of choking.

13.—These paroxysms generally begin abruptly, and last only for a moment. They sometimes arise without obvious cause ; but, they are also produced by any agency which excites the patient, or tends to accelerate or modify the respiratory act. From the highly sensitive condition present in hydrophobia, the causes are often trifling, among which we may mention the thought, sight, sound, and touch of liquids, attempts to swallow, currents of air, the sight of bright objects, the entrance of strangers, unexpected noises, and pungent odors.

14.—The mind, in general, preserves its integrity till the close of life ; but lies in a state of hopeless dejection.

15.—Insomnia is commonly present, unless a narcotic is given.

16.—The pulse becomes progressively more frequent, and, in many cases, presents sudden variations in the number of beats.

17.—Hawking and spitting of saliva, are rare in the first, but of common occurrence in the last, stages of the disease.

18.—Thirst, constipation, and meteorism are present, and the appetite varies in different cases.

19.—Many patients shortly before death, are taken with emesis, and the matter vomited is dark, like coffee-grounds.

20.—On the countenance are depicted anxiety and distress, and the pupils are often in a state of dilation.

21.—The disease, with rare exceptions, terminates within four days.

22.—Death usually takes place by asthenia, sometimes by asphyxia, and, in rare instances, by coma.

#### POST-MORTEM APPEARANCES.

It has been truly said that post-mortem examinations have failed to throw much light on the pathology of hydrophobia. The lesions discovered after death have not only not been uniform, but they have often seemed to be accidental or the result of cadaveric changes. It is evident that the morbid process, which takes place, is mainly in the nervous or vascular system, and to the examination of these the pathologist should direct his attention.

The most frequent change, yet noticed, has been in the vascular system. The blood, according to the testimony of most observers who have recorded the appearance of this fluid, is darker and less coagulable than in health. It is apt to escape from the vessels forming ecchymotic patches, and, after death, to settle in the depending parts of the body, causing lividity of the surface. So far as the records in our collection mention, expressly or by implication, the condition of this fluid, it was in like manner changed, having a darker color, and less coagulation than usual.

The most minute account of the condition of the blood in hydrophobia, which I have met, is in *Schmidt's Jahrbücher*, for 1843, from a German observer, who subjected a specimen to a careful examination. He says, "The blood was found to be of a dark red color, and except that remaining in the heart, it contained little coagulated fibrin; the veins were filled with non-coagulable blood. The corpuscles appeared as rounded vesicles, of a dull white hue, and destitute of



nuclei. Some globules, with indented edges, were mixed with the others, and there was no cylindrical agglomeration, as has sometimes been remarked. A solution of chlorine or muriatic acid rapidly disorganized the corpuscles, and this circumstance afforded, in fact, the chief distinctive character of the blood in this case. The application of muriatic acid caused the disengagement of numerous bubbles." From these facts, there is reason to believe that a microscopic and chemical examination of the circulating fluid in hydrophobia, may yet lead to interesting and valuable discoveries.

The records of the condition of the cerebro-spinal system, as revealed by the autopsies, we have arranged in the following tables for the sake of brevity :—

## CRANIUM.

Dura Mater.	Arachnoid.	Pia Mater.
In 10 cases, congested.	In 7 cases, vascular.	In 23 cases, vascular.
" 2 " natural.	" 11 " opaque.	" 1 " infiltrated.
	" 2 " adherent.	" 1 " opaque.
	" 3 " thickened.	
	" 3 " natural.	
	" 1 " dry.	

In nine other records it is stated, that the membranes of the brain were congested; and, in five more, that they were natural.

Cerebrum.	Cerebellum.
In 20 cases, vascular, generally.	In 4 cases, vascular.
" 6 " " partially.	" 4 " softened.
" 12 " natural.	" 2 " natural.
" 7 " softened in places.	" 1 " inflamed.

The lateral ventricles contained :—

In 9 cases, no more than the usual amount of serum.
" 5 " from 3ss. to 3ii.
" 3 " " 3ss. to 3i.
" 1 " " 3iiss.
" 3 " a larger amount than usual.

The effused fluid was sometimes clear, sometimes straw-colored, and sometimes reddish.

Choroid plexus.	Medulla oblong.
In 5 cases, congested.	In 4 cases, vascular, in part.
" 2 " natural.	" 2 " softer than natural
" 2 " pale.	" 2 " natural.
" 1 " of a watery appearance.	

We see that the encephalon, in hydrophobia, is generally in a state of vascularity, but that there is no lesion or alteration uniformly present, so as to be looked upon as essential. In four of the records it is stated that air was found in the vessels of the brain, or meninges, arising probably from decomposition of the blood.

#### SPINAL MEMBRANES.

In 13 cases, congested, over greater or less extent.			
"	3	"	containing ecchymotic patches.
"	1	"	gelatinous deposits.
"	2	"	natural.
"	2	"	opaque.

#### MEDULLA SPINALIS.

In 10 cases, no unusual appearance.			
"	6	"	vascular (the degree and extent varying).
"	4	"	softening.
"	1	"	inflammation.

It is possible that, in this last case, (No. 12 of our collection,) congestion was mistaken for inflammation, and it is in the same record that the cerebellum is stated to have been inflamed.

In nine of the cases it is stated, that there was more or less effusion at the base of the brain, and in one that none was found.

The condition of the cranial nerves is given in seven of the cases, in six of which they seemed natural; but in the other, the filaments of the par vagum were injected.

Some of these autopsies were conducted by anatomists, and some by pathologists, of world-wide renown, among whom we may mention Rokitansky and Bright; but we see how unsatisfactory is the result—how little light they throw on the nature of this appalling and mysterious disease. Nor were these examinations all made by the unassisted eye. Prof. Bennett, of Edinburgh, who was present at the autopsy of Mr. Sidey's patient, examined, microscopically, the three branches of the 8th pair, and the gray and white substance of the pons, but detected nothing unusual.

(*To be continued.*)

ART. IV.—*Additional Observations on the Invariable Existence of a Premonitory Diarrhœa in Cholera; being a reply to Dr. Hutchison's Article of September, 1855.* By DAVID MACLOUGHLIN, M.D., of London, Eng.

IN the *New York Journal of Medicine* for September last, there is an article by Dr. Hutchison, of Brooklyn, to which, in the interest of Medical science, I wish to reply, and I trust that my reply will find a place in that valuable periodical.

Before going further, permit me to assure Dr. Hutchison that I have had, and that I can have, no intention "of omitting" anything he has said on the question before us. My object is the advancement of medical science, and not "to gratify" myself, as well as others who rely on my statements more than on their own experience, by laying down rules which are not based on accurate observations and on accurate researches, at the bedside.

What are the points at issue between Dr. Hutchison and myself?—

I have laid it down as an invariable rule, that cholera, that is, vomiting, spasms, etc.,—is always preceded by a diarrhœa—for a few hours, or for a few days, or for a few weeks.

In opposition to this, Dr. Hutchison says:—

1.—That a person in good health, and consequently free from diarrhœa, may be seized simultaneously with vomiting, spasms, purging, etc.

2.—That a person in good health, and consequently free from diarrhœa, may be seized simultaneously with vomiting, purging, collapse, etc., without having had any spasms.

I will not appeal, for reasons which will be at once understood, to my own private and individual observations and researches at the bed-side, to prove that every case of cholera is preceded by a diarrhœa, and that the rule I have laid down is correct; but I will appeal to the observations, and to the researches at the bed-side, of gentlemen holding public

appointments, and who consequently have carried on their observations and their researches publicly, and who have taken the trouble to certify to the General Board of Health here that every case of cholera admitted into their establishments had had a premonitory diarrhœa, for a longer or shorter period, previous to the attack of vomiting, spasms, etc., and I beg to name the Medical Staff of the Middlesex, the St. Thomas, the Westminster, the Homœopathic, the St. Mary's, the University College Hospital, and the St. Bartholomew Hospital, as the gentlemen who have given the above certificates to the General Board of Health.

I must add, also, that six and thirty medical gentlemen employed at the Poplar Union, and who have kept a valuable record of all the cholera cases which have occurred for the last five years, in that Union, have certified that every case had had a diarrhœa, for a shorter or longer period, previous to the attack of vomiting, spasms, etc. And further, by referring to the Registrar General's Return of Births and Deaths, for 1853, and by referring to the *Medical Times* for the year 1853, it will be found that every case of death from cholera in London, during 1853, had had a diarrhœa before being attacked with vomiting, spasms, etc. Consequently, with this mass of evidence before me, I must conclude that I am right in having laid it down as a rule, that every case of cholera is preceded by a diarrhœa for a few hours, or for a few days, or for a few weeks, and, consequently, I submit this is an answer to Dr. Hutchison's first objection, viz. : that a person in perfect health, and consequently free from diarrhœa, may be seized simultaneously with vomiting, spasms, purging, etc.

It seems that Dr. Hutchison places implicit confidence in the statement of his patients, that they were seized simultaneously with vomiting, spasms, purging, etc.

If the Doctor will take the trouble to refer to page 207 of this Journal for September, he will find it reported by Dr. Vanderveer, in his excellent article on cholera, that cases were admitted into his wards in a dying condition, who

neither vomited nor purged after admission, and their relations, who accompanied them, stated positively, that they had not previously—but what did the autopsy reveal?—that not a particle of food could be discovered in the stomach, or a particle of fæcal matter could be discovered in the intestines, showing that these patients had both vomited and purged severely before being admitted into the Hospital.

Therefore, the statements of patients, and the statements of their friends, are not to be implicitly depended on—and we must remember that, at the bed-side, we must be guided in forming our opinion on the case by our knowledge of anatomy, physiology, and pathology, and that we must not blindly trust to the word of the inhabitant of a palace or to the word of the occupier of a hovel.

As to Dr. Hutchison's second objection:—that a person in perfect health, consequently free from diarrhœa, may be seized simultaneously with vomiting, purging, collapse, etc., without having had any spasms. Again, I will not appeal to my private and individual observations and researches, in opposition to Dr. Hutchison's statement on this point, but I will refer to the observations and to the researches of the medical staff of the above seven Hospitals, and also to the observations and researches of the six and thirty medical gentlemen employed at the Poplar Union, and further, to the Registrar General's weekly Return of Births and Deaths for 1853, and to the *Medical Times* for 1853, who all admit that spasms are one of the invariable symptoms of cholera, and mark the ending of the premonitory stage and the beginning of the second stage of cholera.

But is it not well known to the profession that spasms are so invariable a symptom of cholera—that, even for hours after death, we often see the extremities suddenly jerked up by spasms, to the great alarm of all who are not aware of this pathological fact? Consequently, we have, as yet, no authenticated case of cholera without spasms, and it must remain as an admitted fact, that spasm is an invariable symptom of cholera.

At page 225 of this Journal for September, Dr. Hutchison says: "That, according to Dr. Maccloughlin, diarrhœa becomes cholera as soon as cramps are developed, and not till then."

If Dr. Hutchison will take the trouble to refer to the preface of the "*Result of an Inquiry into the Invariable Existence of a Premonitory Diarrhœa in Cholera*," which is in his hands, he will there see that it is said, that cholera has four stages,—that of diarrhœa—that of vomiting, spasms, etc.—that of collapse—and that of reaction; and, therefore, Dr. Hutchison is in error when he says, "That, according to Dr. Maccloughlin's own showing, diarrhœa becomes cholera only as soon as cramps are developed, and not till then."

As to the fact that a person, laboring under painless diarrhœa, may be walking about for amusement, or for business, or engaged at his usual occupations at home,—with the cold cyanic state of the skin, and with the cold clammy dew of death all over his body,—the heart having ceased to beat, and the blood having ceased to circulate,—unconscious that he has anything serious the matter with him, which is doubted by Dr. Hutchison, I must again refer to the observations of all those gentlemen who have seen, and who have minutely studied, the rise and progress of cholera, at the bedside, in all parts of the world; and it will be found that they have met with cases where the patient was laboring under painless diarrhœa, who was pulseless, and where the beating of the heart could not be heard, and who had the cold cyanic state of the skin, with the cold clammy dew of death all over their body, and who were still walking about, and complaining of no pain or uneasiness, and the next moment, possibly, were prostrated by vomiting, spasms, etc.

In two such cases, in 1832, when bleeding was supposed to be a cure for cholera, according to Broussais' views, I opened the temporal and the brachial artery, in the same individual; and, although both patients lived for several hours after, without having the vessels secured, no blood

flowed.—(See my letter to Dr. Cormack, Editor of the *Association Medical Journal*.)

Consequently, I submit that I am justified in stating, that a person having a painless diarrhœa, may have almost the whole serum of his blood drained away, his blood may have ceased to circulate, and his heart may have ceased to beat, although he may be walking about, unconscious that he has anything serious the matter with him, with his skin cyanic, and the cold dew of death upon him.\*

In conclusion, I beg leave to say :

1.—That cholera—that is, vomiting, spasms, etc.,—is always preceded by a diarrhœa, for a few hours, or for a few days, or for a few weeks.

2.—That there is, as yet, no well-authenticated case of cholera without an attack of spasms.

3.—That a painless diarrhœa may drain away almost the whole serum from the blood, until the blood has ceased to circulate, and until the heart has ceased to beat, before the patient is attacked with vomiting, spasms, etc., that is with the second stage of cholera.

4.—That if the disease is scientifically attended to in its diarrhœal stage, it can be cured, and, consequently, the developed stage prevented, and life saved.

5.—That these two pathological facts are now acquired to medical science, viz. : 1.—That every case of cholera is preceded by a diarrhœa, for a few hours, a few days, or a few

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\* In a pamphlet on the *Premonitory Symptoms of Cholera*, by Dr. MACLOUGHLIN we find a similar statement :—“ We must not lose sight of this most important pathological fact, that it has been reserved to Cholera to show us that we can walk about for pleasure, or business, or attend to any laborious occupation we may have at home, after our blood has been drained by a painless diarrhœa of almost the whole of its serum, and after our blood has ceased to circulate, and after our heart has ceased to beat.” No fact, case, or proof whatever, is given to substantiate this extraordinary assertion, which we need not say, is in violation of reason not less than every known physiological law. Whatever Cholera may have shown to London practitioners, it certainly has never exhibited on this side of the Atlantic such an anomaly as a person “ walking about for pleasure, or business ” with a lifeless, pulseless heart in his breast. We trust the author does not think us so credulous as to sanction such fabulous statements.—(*Eds. N. Y. Jour. of Med.*)

weeks. 2.—That the disease, scientifically treated in the diarrhœal stage, is easily cured.

6.—That it is in the power of human foresight to prevent an attack of developed cholera.

In a letter dated 2nd July, 1855, inserted in the *Association Medical Journal*, it was attempted to point out what diarrhœa, if left to itself, will run into cholera in a few hours; and what diarrhœa, if left to itself, will not run into cholera for a few days, or for a few weeks.

I am fully aware that this pathological point requires to be further studied. I, therefore, submit it to the profession, in the hope that more careful and more attentive observers will be enabled to give us valuable information on this important subject, so that the medical attendant, on arriving at the bed-side, may be enabled to pronounce whether his patient will be attacked in a few hours, or in a few days, or in a few weeks, with cholera, if the diarrhœa is not scientifically attended to, or whether the diarrhœa will be cured by the efforts of nature; and so that the medical attendant may not be left, as he now is left, to establish his prognosis on conjectures.

There is, also, another point to which I beg leave to call the attention of the profession.

I have now seen five severe outbreaks of epidemic cholera, and I have reason to believe that a great and an important change takes place in the constitution of every individual, where epidemic cholera is about to break out, which change in the constitution of every individual, persists while the disease rages, and after the disease has passed away for some time.

That this change in the constitution of individuals is manifest by the facts, that those of a costive habit, who have a passage from their bowels only every two, three, four, or five days, of hard fœcal matter, have now a passage from their bowels daily, of soft fœcal matter.

That those who are in the habit of having a passage daily, of solid fœcal matter, have now two or three passages daily, from their bowels, of soft fœcal matter.



That those who usually require laxatives to keep their bowels free, now do not require laxatives; or, if they take any, they find that one-half, one-third, or one-quarter, the usual dose has the same effect as a full dose had formerly.

And further, that it is now dangerous to give a full dose of purgative medicine, lest this dose should induce diarrhœa, followed, too often, by fatal cholera. The *Medical Times*, of September, 1854, page 272, contains the report of four cases of cholera, which were induced in St. George's Hospital here, by the administration of the full dose of purgative medicine, and of which, one died.

That, further, every individual in the locality is troubled with more flatus than usual, especially between one and five in the morning, and that every one about to be attacked with diarrhœa has a pressure, and a weight on the sphincter of the anus, and a feeling of insecurity, as if, at any moment, he would lose command over it.

If, in consequence of the observations and of the researches of the profession in every country, it is ascertained that this change in the constitution of all the individuals in a locality where cholera is about to break out, does take place, and that this change persists while cholera rages, and after it has passed away some time, it may throw some light on the etiology of the disease, and prove that cholera is not a contagious disease.

34 BRUTON-STREET, BERKELEY SQUARE, Oct. 28th, 1855.

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ART. V.—*Report of Three Cases of Dislocation of the Femur Reduced by Manipulation.—New Method of Reducing Dislocations of the Femur on the Pubes.* By E. J. FOUNTAIN, M.D., of Davenport, Iowa.

RECENTLY I sent to Dr. Reid, of Rochester, New York, a brief report of three cases of dislocation of the thigh,—one of dislocation upon the dorsum ilii, and two upon the pubis—all reduced by manipulation. At his suggestion, I send a full report of these cases for publication. The case of dis-

location upon the dorsum was reduced very quickly and easily by following exactly the directions given by Dr. Reid, with whom this vastly improved method originated. The two dislocations upon the pubis, I reduced by manipulations based upon the same principles; but by a mode of manipulating quite different from that required for the reduction of a dislocation upon the dorsum ilii. The report of these two cases will be the first of the kind upon record. A concise summary of the rules for the operation will be appended to the report.

*Dislocation upon the dorsum ilii.*—Oct. 7th. I was called in the night to go in haste to the relief of a lady, Mrs. S—, who had received, as stated, some serious injury of the hip, or thigh, by being thrown from a wagon. I was accompanied by my partner, Dr. Adler. We found the patient in bed, complaining of pain in the left hip. The examination revealed at once the nature of the injury, which was a dislocation of the left femur upon the dorsum ilii. On placing the patient erect, the characteristic appearance was presented. The knee resting upon the lower third of the thigh, the great toe of the foot upon the instep of the opposite limb, and the trochanter major approximated to the crest of the ilium. The diagnosis was confirmed by an attempt to rotate and abduct the limb. A mattress was thrown upon the floor, and upon this the patient was placed upon her back. A towel was carried around the sound thigh and hip, and held down by Dr. Adler; but this assistance I found to be quite unnecessary. I then grasped the knee with my right hand, and the foot with my left; flexed the leg on the thigh, and carried the knee and thigh over and upon the sound one, and then upwards as high as the umbilicus, keeping it constantly pressed down upon the body. I then carried the knee outward, bringing the heel inward and the foot over the opposite limb, at the same time making gentle oscillations of the thigh, when the head of the bone slipped suddenly into its socket. The force required was quite moderate, and the pain almost nothing. The time occupied by the manipula-

tion, from the instant I took hold of the knee and foot, until the operation was completed, did not exceed *ten seconds*. The manipulations were made by one continuous uninterrupted motion. The knee was caused to make a "semi-circular sweep" over the sound limb and across the body, then a few quick oscillations, and it dropped down into its natural position. I held the thigh up firmly and steadily, while making the oscillations; and in this position, at right angles with the axis of the body, and abducted, and the foot over the opposite thigh, the head of the bone entered its socket.

*Dislocations on the Pubes.*—*Case 1.*—In June, 1854, I was called to see a man who had fallen from the second story of a house to the ground, upon some pieces of timber. His lower jaw was fractured, and his left hip dislocated. The limb was a trifle shortened, and the foot strongly everted. The prominence of the trochanter major was lessened, and the head of the bone could be felt upon the pubes. While waiting for the appearance of Dr. Arnold, who had also been sent for, I was reflecting upon the necessary arrangements to be made for the application of the *pullies*. While thus meditating upon the subject, I began to think of the possibility of reducing the dislocation by manipulation. Considering the position of the head of the bone and its relation to adjacent parts, it occurred to me that by rotating the limb still more strongly outward, I might elevate the head of the bone from its resting-place—the trochanter major acting as a fulcrum. Then, by carrying the leg and foot, and after it the knee and thigh, over the opposite thigh, while the limb was still strongly rotated outwards, the head of bone would be made to move upwards and outwards in the arc of a circle of which the trochanter major would be the centre, and the neck the radius. After being thus brought over and upon the edge of the acetabulum, a motion of the limb directly upwards, would, in the same way, throw the head of the bone into its socket,—the muscles attached to the trochanter major holding that point comparatively fixed.

Before the arrival of Dr Arnold, I had determined to test the theory; and on explaining my views to him, he at once expressed his willingness to have the attempt made as I suggested. At worst, it could only fail without much, if any, harm, and then we had the pullies ready for application after the "classical method."

The patient was placed upon the floor on a quilt. Being a man of strong muscular development, I thought there would be more certainty of success if relaxation was first produced by the inhalation of chloroform. He readily came under its influence. When quite unconscious, the limb was taken by the foot and knee and rotated outwards, the leg flexed and carried over the opposite knee and thigh, the heel kept well up, and the knee pressed down. This motion was continued by carrying the thigh over the sound one as high as the upper part of the middle third, the foot kept firmly elevated. Then the limb was carried directly upwards by elevating the knee, while the foot was held firm and steady, at the same time making gentle oscillations by the knee, when the head of the bone suddenly dropped into its socket. Time required in the operation, from twenty to thirty seconds. The force used was slight; I believe it could have been reduced about as well without the chloroform.

*Case 2.*—Oct. 31st, 1855.—John McCarthy, an Irishman, had his hip dislocated by falling with a horse he was riding. The horse slipped and fell, rolling over upon him. I found the limb about the same in length, as the sound one; but greatly everted, the toes pointing directly outward. On attempting to rotate and flex the limb, pain was produced, and a comparative immobility manifested by resistance. The head of the bone was felt forward upon the pubes. As soon as I discovered it was a dislocation, my first thought was to send for Dr. Adler to witness the operation. But the temptation to take hold and reduce it immediately, was too strong. The patient was resting upon a low couch. I immediately took hold of his knee and foot, rotated outwards and flexed the

leg by carrying the foot over the sound thigh, keeping the heel well up, and pressing the knee down. After I had brought the thigh in this way over the upper part of the sound one, I carried it directly upwards, holding the foot firmly up and making oscillations by the knee, when the head of the bone slipped into its socket, and the limb at once assumed its natural appearance and mobility. A little more force was required in this, than in the other case; but it was still quite moderate, and the pain very slight. In this case I had no assistance whatever. Time occupied in operating, about twenty seconds.

The history of these cases fully demonstrates, to my mind, the immense value of this new method of reducing dislocations of the hip. Notwithstanding the unsatisfactory results of the trials at the New York Hospital, I have perfect confidence in the correctness of Dr. Reid's method of manipulation. It is certainly one of the greatest improvements of modern surgery, the value of which may be understood when contrasting an operation requiring but ten or twenty seconds and without pain, with the instructions of Sir Astley Cooper, viz.: Venesection to syncope, hot bath, tart. antimony to nausea, and then the application of the pullies from four to six hours, if necessary! To Dr. Reid is due the credit of this splendid improvement, in which the whole profession must participate, as a most valuable contribution of scientific surgery to the relief of suffering humanity. It remains to be seen how far the test of future operations will confirm the value and correctness of the method of reducing dislocations on the *pubes*, as illustrated by the two preceding cases.

It is my opinion that dislocations into the thyroid foramen may be reduced by the same method as the last.

In conclusion, I will recapitulate the method of operating for dislocations on the *pubes*.

Taking the knee in one hand, and the foot in the other, rotate the whole limb outwards, and flex the leg on the

thigh by carrying the foot over the opposite knee. Then carry the limb, foot forwards, over the opposite thigh, at the same time twisting the heel upwards, and pressing the knee down. Carry the thigh in this way over the sound one as high as the upper part of its middle third, then elevate the limb by raising the knee while the foot is held firm, at the same time making gentle oscillations when the head of the bone will slip suddenly into its socket.

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ART. VI.—*Case of Large Hæmatocele*. By F. D. LENTE, M.D.,  
Surgeon to the West Point Foundry, N.Y.

WAS called on the night of the 5th of January, 1854, to Mr. B— M—, aged 59 years, robust, and in good general health. Found him suffering great pain, and tossing about in bed, countenance anxious, pulse rapid, and rather feeble. My attention was immediately called to the condition of the scrotum, which was found to be immensely swollen on the right side, at least as large as a man's head, tense, dark-colored; in some parts purple,—in others, nearly black. The tumefaction also extended along the right inguinal canal, and, in this situation, as well as towards the right ilium, the integuments were much ecchymosed. The penis was completely concealed by the swelling. It was nine o'clock when the patient was first seen by me, and, upon inquiry, found he had been up the "Breakneck" mountain with a horse and sled; that, by some accident, he fell, and struck with his right groin upon the sled. He says the swelling almost immediately appeared, and attained its present dimensions before he reached home, which was within a short time. He informs me, however, that he was, several years ago, when living in Orange County, troubled with a similar difficulty,—the swelling, however, not being half its present size, and was "operated upon" by Dr. Geo. C. Blackman, now Professor of Surgery in the Ohio Medical College; and there is a very evident cicatrix, about two inches and a half long, on the anterior part of the tumor; but of the precise nature

of the operation, patient can give no idea.\* Since that time, he says there has always been considerable enlargement of the part, requiring a suspensory bandage, but not giving him any great inconvenience. Pressure on the tumor gave considerable pain, as it did also along the right inguinal canal; it was dull on percussion, hard and solid to the touch, and cold; abdomen soft, and not painful on pressure; the bladder has been evacuated, since the accident, without difficulty.

From the general aspect of the case, and the symptoms above enumerated, it was presumed to be hæmatocele, but it was not certain that there might not be a hernia combined with it. That there had been some other abnormal condition of the parts, previous to the accident, was evident, but the true nature of this could not be known. At all events, the sufferings of the patient, and the fear of impending sloughing, rendered some immediate steps for the patient's relief necessary. Having previously administered an enema, which acted tolerably well, I resolved to make an explorative incision, as for hernia. Therefore, by the light of a "dip candle," and the aid of such of the friends of the patient as could be induced to lend their assistance, I proceeded to make an incision over the anterior part of the tumor, commencing over the right inguinal ring. This extended about three inches in length and in depth, through the skin, adipose tissue, and superficial fascia; the edges immediately separated widely, and the adjacent layers seemed to bulge a little between them. Fluctuation could now be distinctly felt; but, just at this moment, my candle-holder fainted, and the delay, occasioned by this, seemed to worry the patient, who had borne the pain remarkably well (no anæsthetic being at hand). Upon arriving at what appeared to be the last layer, a nick was made into it, and immediately, a large stream of sero-sanguinolent fluid gushed out with considerable force.

\* Subsequently, I was informed by Dr. Blackman, that the case gave rise to considerable difference of opinion between himself and some other physicians, who were all of opinion that it was hernia, while he regarded it as hæmatocele.

This continued to flow until it filled a quart bowl; the incision was then enlarged, and a quart more of large clots and fluid blood was pressed and scooped out with the fingers. Immediate relief to the severe pain followed the evacuation of the contents of the sack. By this, the swelling was reduced to about one-half its original size. It was then found necessary to make deep incisions in the hypertrophied and almost sloughy cellular tissue of the scrotum, three in number,—one near the perineum, which the swelling also involved, and one on either side of the raphé. This gave exit to still more extravasated blood. Ordered stimulants, *pro re nata*, stimulating and antiseptic poultices, and an anodyne.

January 8th.—Up to this time the swelling has continued pretty much the same. Large clots and fluid blood, and serum have been discharged from the wound. The discoloration has begun to disappear, and the scrotum looks better, but the ecchymosis has deepened in color towards the groin and ilium, and has extended round the hip and right buttock. Some delirium at times; pulse remarkable, considering the general condition of patient, which, though very feeble, is not threatening—scarcely any two pulsations in a minute appearing to be alike, and being extremely feeble and irregular in rhythm, indicating, *per se*, impending dissolution. Stimulants are required pretty freely, anodynes, and enemata.

January 11th.—Doing well. To-day, for the first time, the pulse can be numbered. Swelling has materially subsided, and discharge is assuming a purulent character. Ord. stimulating ointment and bandage.

January 14th.—The whole swelling is now about the size of a large fist, and the right testicle can now be felt to be the size of a turkey's egg, firm and solid.

February 1st.—The tumor is now not half the size it was previous to the occurrence of the accident, and does not require any artificial support.



ART. VII.—*Abstracts of the Proceedings, Papers, etc., of Medical Societies of New York.*

## PATHOLOGICAL SOCIETY.

REGULAR MEETING, NOV. 14TH, 1855.—DR. BOLTON, PRESIDENT.

*Deficiency of Occipital Bone.*—DR. DETMOLD exhibited to the Society a child which presented a deficiency on the median line in the occipital bone, near its junction with the two parietals. The opening was rounder than the Fontanelle, and its borders more distinct and abrupt; its covering was thin; and, by placing the hand upon it, the pulsations of the brain could be distinctly felt. Through this spot, the act of crying or coughing protruded a tumor, which was augmented in size by the increased muscular efforts of the child. It was divided into two by the falx cerebri, which, passing across its center, acted as a constricting band. The child was 14 months old and in good health; the tumor had been first observed by the mother when it was 3 months of age; she asserted that, during sleep, the child showed convulsive symptoms. Dr. Detmold regarded the tumor as a hernia cerebri, divided into two by the falx: he was uncertain whether the deficiency was one of the congenital kind observed so frequently on the median line, or whether it was the disease recently described by continental writers under the name of "Craniotalis," or softening of the cranial bones; he inclined to the belief that it was the latter disease.

*Ununited Fracture.*—DR. POST presented portions of bone removed from an ununited fracture, of which the following account was given: the patient a man of 40 years of age, in good health, and of rather intemperate habits, was thrown from a cart about ten months ago, and sustained a fracture of the humerus, for which he entered the New York Hospital. There he was treated for two months, but no union could be obtained, and he left the hospital with an ununited fracture. He then came under the treatment of several physicians of the city, but experiencing no benefit, he applied to Dr. Post about six weeks ago.

A fortnight ago, an operation having been determined upon, it was thus performed: an incision was made along the outer face of the arm, the heads of the bones exposed, and a chain saw being passed around them, they were removed, and the bones brought into apposition, and wired. The wound has since done well.

Dr. Detmold enquired what in this case had been the cause of non-union? Dr. Post replied that it was probably due to the abstraction from the patient of his accustomed stimuli. Dr. Detmold expressed

the opinion that next to the occurrence of fracture on ship-board, abstraction of stimulus is the most fruitful cause of non-union.

*Diseased Kidneys.*—Dr. McCREADY presented two enlarged and congested kidneys, in which there was a considerable purulent deposit, which could be traced along the tubes, and poured freely from them upon pressure. No history of the previous symptoms could be obtained, except that the man had been attacked with sudden and violent pain in the abdomen, after working in a damp cellar, and that he had since had fever. For this he entered Bellevue Hospital, where, in a few days, he sank into a state of coma, and died. His urine (which was freely passed) was tested previous to death, and found albuminous, and the post mortem examination revealed the renal disorder above mentioned.

*Lobular Pneumonia in the Adult.*—Dr. McCREADY exhibited the lungs of a patient who entered Bellevue Hospital, with double pneumonia, which he had contracted after drinking very freely and exposing himself. In a few days after admission he died, and in the lungs were found a number of small abscesses filled with well-elaborated pus. The case was one of lobular pneumonia, which, although common in children, is rare in adults; at least he had met with no other cases of it. In the physical sounds he had been struck by the peculiarly coarse and almost mucous character of the crepitus.

*Concretions from the Pancreas.*—Dr. McCREADY presented a concretion of mixed phosphate and carbonate of lime, over one third of an inch in diameter, and above an inch long, which was found in the pancreatic gland and duct of a patient who had died, in Bellevue Hospital, of albuminuria and phlebitis, on the 23rd of October last. The patient, who was an emaciated and feeble looking person of 30 years of age, entered the hospital on the 17th of October, laboring under violent dyspnœa. His previous history was to the effect that he had been in good health up to two years ago, when he had contracted a cough which had since been accompanied by loss of flesh and hemoptysis. On entrance, his pulse was feeble and frequent; the body bathed in a profuse sweat, exhaled a disagreeable odor; the breath was extremely fetid, and the urine was albuminous. Physical examination showed the existence of phthisis. Soon after entering the ward, he had a convulsion, which was repeated in 36 hours—before this he had never been similarly affected. On the 20th, diarrhœa set in, and examination of the abdomen showed a marked tenderness over the liver, which appeared enlarged. Over the anterior aspect of the chest, a mucous râle was audible. During the night of the 20th, patient was suddenly seized

with great dyspnœa, which continued until 8 o'clock the following day, when he had another convulsion which lasted 5 minutes, and, ceasing, left him without the dyspnœa. On the evening of the 21st, however, it returned with increased violence, and he died, after a protracted struggle at one o'clock on the morning of the 23rd. At the post mortem examination, there were found eight abscesses in the cerebrum, each containing about half an ounce of pus; the cerebellum had none. The lungs contained a small amount of tubercular matter, and their surfaces were covered with small multiple abscesses. The liver contained numerous small collections of pus, which were scattered throughout its substance. The spleen was enlarged and softened, and contained a number of discrete abscesses. The right kidney contained an abscess in its secreting, portion which held about one ounce of pus. It was lined by pyogenic membrane, and did not connect with the tubular portion of the kidney.

In the pancreas was found the concretion already described. The urine taken from the bladder after death was examined by Dr. Draper, House Physician, and found to contain albumen, epithelial cells, and casts of the tubes and blood globules, with exudation corpuscles. Its specific gravity was 1012.

*Fœtus Destroyed by the Funis.*—DR. KRAKOWITZER exhibited a fœtus of 4 months, the abortion of which had been caused by interruption of the circulation through the funis, which had been compressed by the following arrangement of its course:—Passing from the umbilicus of the child, the cord had wound around over the shoulders around the neck, under the arm to the placenta, causing sufficient pressure to stop the circulation and produce death. The act was preceded by a rigor three days previous, and pain in the abdomen on the day of its occurrence.

*Necrosis of Femur after Amputation.*—DR. MARKOE presented a necrosed femur which had been removed some weeks ago by Dr. Buck, who gave the following details of the case:—The patient, a boy about 15 or 16 years old, received, about three or four years ago, an injury to the thigh, which was followed by inflammation of its tissues and bone, and finally resulted in necrosis. Contrary to custom, the exfoliation took place on the inner aspect of the thigh, and four fistulous orifices existed there, from which there was a profuse purulent discharge. The boy's health was, at that time, so much impaired, that Dr. Rodgers, who saw him, advised amputation, but the family objected to it. About a year ago his condition improved most surprisingly; the suppuration diminished, and so much was his health reëstablished that Dr. Buck enter-

tained hopes of saving the limb by removing the sequestrum, but advised delay until the fall. All progressed well until August, when, after a fatiguing walk, profuse hæmorrhage occurred from the fistulous orifices which was uncontrollable by compression of the artery as it passed over the pubis, and was checked only by firm pressure over each of the fistulous orifices. At each renewal of the dressing this recurred with so much violence that the attending physician called in Dr. Buck. The question now was not one of saving the limb, but the life of the patient; and to do so, Dr. B. regarded amputation, either through the coxo-femoral articulation or through the femur, leaving the head of the bone in situ, as the only alternative. The operation was performed, the head of the bone being left, and the hæmorrhage so well controlled that not more than three or four ounces of blood were lost. The patient did very well, and in three weeks was sitting up in his chamber. Dr. Markoe then continued the account. The amputated part being examined, the femoral artery was found perforated by a needle-like spiculum from the end of the sequestrum, and thus arose the violent hæmorrhages afore-mentioned. The opening in the artery was found filled by coagula, which probably saved the patient from death by hæmorrhage. One point in the case which was unique to him was this: the sequestrum was found lying free within its cavity; no involucrum investing on its inner face.

*Sequestrum after Amputation.*—Dr. MARKOE also presented a nearly cylindrical sequestrum, about six and a half inches in length, removed from the stump of a thigh, amputated in June last. After the operation the patient did well, until the external wound had diminished to the size of a shilling, when its lips pouted, and a dead bone was discovered at its bottom by the probe. This was one month after amputation, and Dr. M. waited four months, hoping that nature would cast off the dead matter without aid; this, however, did not occur, and six weeks ago he seized the dead bone with a pair of forceps and made traction, but was unable to move it. Convinced that, as four months had now elapsed since the operation, the sequestrum must be detached, he took a stronger instrument, and making firm traction, moved the necrosed part about three-quarters of an inch, when it stopped, and would come no further. He then made occasional traction, hoping gradually to overcome the resistance, but failing to do so, he determined to resort to operation, and thus proceeded:—Laying bare the end of the bone, he chiseled away about one-quarter of an inch of the involucrum; then making traction, and examining with his finger, he discovered a spiculum of bone resembling a nail, running from a bony wall

within through a hole in the sequestrum to the involucrum without, which being broken by a blow of the chisel, the sequestrum at once came away.

He remarked that months after the performance of amputation at the middle of the thigh, these necrosed pieces frequently come away; the fact is mentioned by Velpeau, Chelius, Syme, Erichsen, South, Gross, and others; but having met with no satisfactory explanation of it in these authors, he suggested the following:—

The occurrence of necrosis under these circumstances may be due, 1st, to inflammatory action in the medullary membrane, which prevents it from nourishing the inner half of the cylinder of the shaft of the bone; 2nd, to suppuration extending upward between the medullary membrane and the bone; and 3rd, to the nutritious artery (which often enters the bone below its middle) being cut off. In the last case the bone must be nourished by the collateral circulation established through the small arteries of the medullary membrane and periosteum, which enlarge for that purpose; but being contained in bony canals, they enlarge slowly, and before reaching the requisite size the bone dies. Ultimately, however, they do enlarge the medullary membrane, elaborating a bony wall within and the periosteum without; the sequestrum is thus imprisoned between the two.

Dr. Peaselee remarked, that if the affection of the medullary membrane produced this result, it would as likely occur when the amputation was performed at any other point where it existed; he believed the third explanation to be the correct one.

*Diaphragmatic Hernia.*—DR. FINNELL presented a diaphragmatic hernia, of which the following history was given:—Williams, a colored man, was severely injured about the chest and abdomen on the 24th of October. During the night epistaxis came on, which reduced him very much, and on the following morning he complained of his head and chest, saying that something had burst within him. Vomiting now set in, and continued to the time of death, which occurred on the eighth day. On the fourth day of his illness, his pulse was quick and weak, and countenance anxious; the skin was warm, and there existed great thirst. The apex of the heart was found on the right side, and the hand placed over the left, gave a thrill resembling that of an aneurism. On post-mortem examination, twenty-six hours after death, the stomach was found in the left pleural cavity pushing the lung as high as the third rib, and crowding the heart to the right side. In the diaphragm there existed two openings, one an inch in diameter, and the other the size of a goose quill; through one of these the stomach and transverse

colon had passed, and through the other a portion of omentum. The spleen, separated from the stomach, lay against the diaphragm—no trace of inflammatory action existed in the chest or abdomen. The openings in the diaphragm were circular, with hard, thickened edges.

*Aneurism of the Coronary Artery.*—Dr. FINNELL also presented the heart of a woman, 25 years of age, who had the day previous, while at work, fallen to the floor and died instantly. Upon post mortem examination, an aneurism of the right coronary artery was discovered. This, however, had not burst, and he could not account for the suddenness of the death.

Dr. Metcalfe thought that, as the head and abdomen were not examined, it could not be taken for granted that the aneurism had caused death.

*Fracture of Patella.*—Dr. CONANT presented a fracture of the patella of fourteen years' standing; the fragments were separated from each other about six inches, the upper *cul de sac* was from 1½ to 2 inches long, and the lower was obliterated. Little use was made of the limb during life; and in walking it was thrown forward mechanically.

*Tumor of Abdomen.*—Dr. CONANT also presented a tumor, which was taken after death, from the abdomen of a man; it had been attached to the ilium at its junction with the cæcum, and appeared to have existed between two folds of the peritoneum; it contained a thick, creamy, semi-fluid substance.

Dr. Metcalfe remarked that he had once seen a specimen somewhat similar, which was attached to the rectum by a pedicle. The differential diagnosis between one of these and ovarian tumor would, he thought, be very difficult. Dr. Metcalfe was requested by the President to examine the contents of the tumor and report to the Society.

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#### SOCIETY OF STATISTICAL MEDICINE.

REG. MEETING, DECEMBER 10TH.—Dr. PEASLEE, V. P., in the Chair.

*Yellow Fever at Quarantine, New York.*—The following is an abstract of a report of the cases of yellow fever treated at the Marine Hospital, Staten Island, during the last half-year of 1855, made by ELISHA HARRIS, M.D., Physician-in-Chief to that Hospital, to this Society.

*Case 1.*—J. M., an engineer from the Navy Yard, at Gosport, Va., admitted July 28th, third day after leaving the infected city. He was a vigorous and healthy man, æt. 23 years, a native of Vermont, an

engineer by profession, had never before resided in a district infected with yellow fever; resided with his family at Portsmouth, but worked at Gosport. His wife had left for the city of New York a week previously. Soon after her departure, he began to suffer from headache and general malaise, for which he sought medical advice and treatment, but with no alleviation. Under these circumstances he left, by railroad, for New York, and became very seriously ill while on the way. He proceeded to the residence of his friends on Second Avenue, obtained the services of a physician, and as soon as his case was made known to the Resident Physician of the city, was transferred to the Marine Hospital.

*Symptoms.*—Eyes deeply injected, suffused, and icterode; tongue tumid, with a dirty grey coating in centre; tips and edges clean, red, and of a raw appearance; lips tumid and red; skin sallow and lifeless in appearance; pulse, 60 per minute, very compressible, beating in short and feeble strokes, with long intermissions; only complaint—constant nausea and ineffectual efforts to vomit. He had suffered considerably from pain in the back, head, and limbs, and, at times, from pain in the epigastrium; but none of these symptoms were present at the time of admission; mind perfectly clear and calm.

*Treatment.*—Ice, in small particles, as the patient desired; ten grains of calomel, which alleviated the excessive nausea and retching; a warm epithem to abdomen, and the whole body carefully enveloped in a woolen blanket, and perfect quiet enjoined. After a few hours, a dose of fifteen grains of quinine was administered, and this was continued, in doses of six grains, every two hours. Before morning, the patient had an evacuation of a tar-like material from the bowels, and, early in the morning of the 29th, he vomited, very freely, the characteristic black vomit. At this time, fourteen hours after his admission, the pulse was at 60 per minute, and more feeble than on the previous evening, with more marked intermittence in the interval of the pulsations. Ordered emplastr. vesicat. to the epigastrium; the ice and quinine continued. There had been no change in the patient's aspect, and he still complained of no pain.

During this day, the vomiting was frequently repeated, of the same character as the first; expressed great anxiety to hear from his wife, who was sick with a milder attack of the same malady, in the city; was fully conscious of his rapidly approaching dissolution, and before evening, he very calmly conversed upon the subject, and gave his last messages and directions. The eyes became more deeply injected and suffused, and the pulse more infrequent; during the night, was en-

tirely indifferent, except when roused by vomiting; the quinine was discontinued.

July 30th.—Pulse 56; more feeble; mouth and lips bloody; sputa tinged with blood. The vomited material contained considerable blood that had not assumed the granular condition in the stomach; no headache; mind perfectly clear, but lethargic. At noon, he repeated the directions given the previous day; at evening, he was sinking more rapidly, and at 4½ A.M., July 31st, he died.

During all his illness, the patient had expressed no anxiety or fear for himself; he took no food; tasted of wine once, and desired no more; he did not seem to be nauseated by the quinine; passed but four or five ounces of urine in the whole period spent in the hospital; never complained of any pain.

*Autopsy 11 hours after death.*—Cadaver slightly rigid, finely developed, and muscular; dark yellowish blood issuing from all the mucous surfaces; the skin intensely yellow, with some ecchymoses and vibices upon the sides, shoulders, extremities, and back; several patches of extravasated blood were observed about the calvarium, on stripping off the scalp.

*Brain.*—Meninges very much congested; surfaces of pia mater and arachnoid opaque, with imperfectly organized fibrin; arachnitis with profuse but imperfectly organized fibrinous exudation, observed throughout every portion of the membrane; about four ounces of bloody serum escaped from the base of the brain, upon removing the organ. Three ecchymosed or extravasated bloody patches were observed under the arachnoid; the lateral ventricles contained about two ounces each of yellow serum; there was a small quantity of extravasated blood in one; plexus choroides engorged with dark blood; substance of the cerebral mass presented a perfectly normal appearance, and was of normal consistence.

*Thoracic Organs.*—Pleura intensely injected; a small quantity of yellowish serum in the pleural cavities; lungs perfectly normal, with slight hypostatic congestion; heart normal in structure; pericardium containing an ounce and a half of yellow serum; no coagula in either ventricle, but a small quantity of fluid blood in the right; endocardium marked with small ecchymoses and bloody punctæ, that could not be washed out; dark fluid blood flowed freely on opening any of the venous trunks.

*Stomach.*—About half-a-pint of thick granular black vomit was found in the stomach; mucous membrane of an ash-grey color, when washed, and exhibited no marks of inflammatory action that were not



equally discoverable in all the tissues of the body. In the greater curvature there were several distinct and dark ecchymoses, and there was observed a roughened and elevated line or ridge, extending four or five inches across this portion of the stomach. There was one small ulcerated patch, but it was not of recent origin. The mucous membrane was not in the least softened or thickened; the villous coat was not injected.

*Liver.*—Was rather small in size; of normal consistence, and not structurally changed, so far as the eye could detect. Its superior surface was of a bright, nutmeg-yellow color, while the inferior surface was of a much darker hue.

The gall bladder was partly filled with a thin and dark green fluid; pancreas and the spleen were of normal appearance and structure; kidneys were markedly congested; there was but an ounce of urine in the bladder, and the mucous lining of this organ presented appearances very similar to those seen in the stomach,—there were slight ecchymoses from the same cause, the altered condition of the blood. The mucous membrane of the intestines was considerably congested, or passively engorged with venous blood, and presented the same ecchymosed appearances, as were observed in all other portions of the mucous tissue; the solitary glands were remarkably tumid and of a light color.

*Case 2.*—F. A., æt. 23, native of the U. S., seaman, admitted from steamship *Black Warrior*, Aug. 2nd. He had made several voyages on this vessel, which plies between New Orleans, Havanna, and New York. He became ill some four days previous to the arrival of the vessel at quarantine, and was reported unfit for duty. The second mate of the same vessel, was at the time very sick with the yellow fever, and recovered in this hospital, but no others on board had suffered any symptoms of the malady. The patient was a person of nervo-bilious temperament, thin in flesh, constitution considerably impaired. The surface of the body had a deeply icterode hue, augmented by a naturally dark complexion; conjunctiva deeply icterode and injected, the cornea brilliant, but the eyes suffused and destitute of expression. The tongue was perfectly clean, dry and cracked, with edges and tip of a dirty red color; gums swollen, and bleeding; vermilion border of the lips tumid, and bright red; pulse without volume and very frequent. He made great complaint of pain and discomfort, but without location except that the epigastrium was tender upon pressure; intellectual faculties were not obscured, though he appeared exhausted and stupid.

*Treatment.*—Patient was carefully enveloped in light coverings, and placed in a quiet part of the ward; ice allowed as freely as he desired, but no drinks. An epithem of hot wet flannel was placed upon the abdomen, where a strong sinapism had produced vesication; and cold, by evaporation, was applied to the head which was considerably above the normal temperature. Quinine, the only medicine administered, was given in solution, in doses of eight grains every third hour. During the twelve hours that he was under observation, preceding 10 P.M., there was no appearance of black vomit, but the hæmorrhagic condition of the gums and fauces led us to look for it. Before morning, however, he discharged the granulated vomit very freely. Aug. 3rd, pulse more feeble and about 100 per minute; disorganized blood issuing from the nostrils and mouth; eyes more lachrymose and icterode, eye-lids œdematous. Odor of patient, sickening and offensive. Treatment of previous day was continued until black vomit was freely discharged again, when the quinine was discontinued, and only ice allowed the patient. During the day and evening he continued to sink; black vomit was copiously ejected without effort, and from the bowels he had frequent discharges of the same material, with a larger proportion of blood that had not assumed the granulated condition. These discharges, after standing, assumed a semi-gelatinous condition. No urine was passed or secreted.

September 4th.—Patient nearly unconscious, pulse frequent and irregular; surface of body more deeply icterode, with purple ecchymoses and punctæ on all the depending portions; eyes suffused with yellow and bloody fluid, and upper eyelids swollen and dark purple; disorganized blood issued from the nostrils, mouth, and ears; odor of patient highly offensive; no vomiting during the two hours preceding the patient's death, which occurred about 10 A.M., six full days from the invasion of the malady on ship-board.

*Autopsy four hours after death.*—Cadaver flaccid, color of the surface intensely yellow, with purple punctæ diffused over the chest and limbs; small, circular, and dark purple ecchymoses thickly scattered over the depending portions of trunk and thighs; and disorganized blood issuing from all the mucous linings and outlets of the body.

The *brain* was carefully examined and found to present all the morbid appearances observed in the case of J. M., with the addition of more marked evidences of cerebral lesions, that seemed to have resulted from disorganization of the blood. The superior portion of both hemispheres of the brain presented a covering of dark extravasated blood between the pia mater and arachnoid, the patch covering the temporal

portion of the left hemisphere being much the larger and thicker. This was more than two lines in thickness, and both patches were partly composed of imperfectly organized fibrin. All this fibrinous and bloody exudation appeared to be very recent. The plexus choroïdes was engorged and covered with bloody exudation. The ventricles were distended with yellow bloody serum, and about four ounces escaped from the base of the brain, and the spinal canal; the cerebral mass was of normal consistence and appearance.

*Thoracic Organs.*—Normal in structure. There was nearly half a pint of bloody serum in the pleuritic cavities, and three ounces in the cavity of the pericardium. The pleuræ were not as markedly injected as in the case of J. M. The right ventricle of the heart, and the pulmonary artery, contained considerable semi-fluid blood, which was filled with bubbles of offensive gas; lining membrane of these cavities was stained of a dark and dirty red color, which could not be removed by washing.

*Stomach.*—A quantity, about eight ounces, of thick granulated black vomit was found in the cavity of the stomach. There was some thickening and softening of the mucous membrane, but no appearance of vascular engorgement of the tissues of the organ; no ulceration; several large ecchymoses. The *liver* was of a bright reddish yellow color, and considerably engorged with dark blood; a little thick bile in the gall-bladder. The *spleen* was small. The mucous lining of the intestines normal in appearance, but softened. No urine in the bladder, nor had the patient passed any while in the hospital.

*Case 3.*—J. C. G., æt. 30, a seaman from the U. S. Ship *Falmouth*, was admitted Aug. 14, at 11 A.M., had then been ill and unable to perform duty for twenty-six hours. The ship had just returned to this port from Havanna, and brought into quarantine the corpse of Midshipman Cain, who had fallen a victim to yellow fever a day previous to arrival.

The patient was a native of the United States, of excellent habits and previous good health. He had taken his rations regularly during the whole voyage, and had felt no illness until the morning of the 13th of August, when he complained of "pain in his bones," his back and his head, and at 10 A.M. turned into his berth, under the care of the surgeons of the ship, Drs. Brownlee and O'Hara. The invasion was unusually sudden; the stage of reaction had begun when treatment was commenced, and it lasted but four or five hours. During that period, calomel was freely administered, and it induced gentle catharsis.

Quinia was then administered, in doses of eight grains every three hours.

When placed in the hospital; twenty-five hours from the invasion of fever, he had already been brought fully under the effect of quinia. His pulse was at 68; full, but slow; skin was warm and dry; eyes injected and suffused; head hot and temporal vessels turgid. The skin was not yellow; lips red, tongue clean and red at the edges. The patient complained of pain in the back, head, and epigastrium, had just begun to suffer from nausea, but had not vomited.

*Treatment.*—Cups to epigastrium and back of the neck, with leeches to the nostrils, to avoid the danger of cerebral congestion. Warm fomentations were applied to the abdomen, an ice-cap to the head, and ice was given as desired by the patient. The ice-cap was continued, and leeches were re-applied to the nostrils, while the quinine was continued, and seemed to alleviate the cerebral heat and congestion. The quinine was continued during the 14th, and at the advice of Dr. Brownlee, during the 15th, with apparent advantage to the patient. During the night of the 15th, which may be remarked as the last twelve hours of the third day of the malady, the symptoms became more unfavorable; the headache returned with great severity, with increase of pain in the back and limbs, and the epigastrium. Pulse continued at about 60, and with increased intervals between the pulsations. Once during the evening, the patient vomited half a pint of flocculent material, without blood or any well-marked sediment.

During the 16th, the fourth day of the disease, there was no marked change in the symptoms; no vomiting, but an increase of epigastric tenderness; pulse continued to decline in force and frequency. During the fourth night he sank into a semi-comatose condition, and early in the morning of the 17th, nearly four full days from the invasion of the malady, he died without agony.

*Autopsy six hours after death.*—Cadaver muscular and flaccid; surface, yellow, with several small circular ecchymoses scattered over all the depending portions of the body. Disorganized blood was oozing from all the mucous surfaces and outlets.

The *brain* was carefully examined. A large amount of fibrinous exudation was observed upon the arachnoid, and less serum in the ventricles than in the case of J. M. In all other respects, the autopsy of this case corresponded with the particulars observed in the autopsy of Case 1. The *liver* was, perhaps, more deeply engorged with blood, but it presented the same appearance and color as in that case.

*Case 4.*—An unknown man, aged about 35 years, was brought into Quarantine, dead, on board the steamship *Roanoke*, during the evening of Sept. 16th, and was placed in our dead-house next morning. From the officers of the steamer, I learned that this man was put on board from a barge in the stream on the evening of the 15th, as they came down the Chesapeake, near to Old Point. All I could learn of the history of this case went to show that the man appeared quite vigorous at the time he boarded the steamer. He was a German, apparently a musician, had little communication with any one on board, except with a servant who furnished him with some tea at his request, and subsequently and repeatedly with gin, all which he was observed to vomit soon after drinking. He complained of no pain, and expressed no anxiety or fear, and died without agony about twenty hours after leaving Old Point.

*Autopsy 18 hours after death.*—Cadaver, well developed and finely formed; cicatrices of old buboes and chancres about the groins and genitals; the skin of a deep saffron yellow hue, with multitudes of petechiæ and small ecchymoses; large purple patches about the back and sides; disorganized blood issuing from the mouth and nostrils; conjunctivæ intensely icterode; lips, mouth, and tongue of dirty mud color, free from sordes, but covered with bloody exudation. The *brain* was carefully examined, as in the other cases, and the same appearances observed as in those cases. There was, perhaps, less fibrinous effusion than had been seen in former autopsies, but the arachnoid and plexus choroides were more intensely injected. The *lungs* were perfectly normal in structure, considerably engorged with dark venous blood; old pleuritic adhesions, and a few ounces of bloody serum in the pleuritic cavities. The *stomach* contained six ounces of well-characterized black vomit, which had the odor of spirits, from the gin that the patient had drunk. The *liver* presented a light reddish, olive yellow hue, both upon its surface and throughout its structure. It was much engorged with portal blood of a tar-like appearance and consistence. When a slice of the organ was pressed and washed of the blood, it had the color of a yellow, dead leaf of the osier willow. The *spleen* and *pancreas* were of small size and normal consistence. There was little bile in the gall-bladder, but a considerable quantity of dark yellow and thick fluid in the common duct. The *intestines* contained a considerable quantity of black vomit; the mucous membrane of the entire gastro-intestinal tract, considerably softened; but there were no pathognomonic evidences of previous inflammatory action. When the inter-

nal surface of the stomach and intestines was washed, it exhibited an ash grey color, and the rugæ had a natural and healthy appearance. The areolar tissue about the pyloric extremity of the stomach and the common duct was excessively œdematous and yellow.

After this examination, no doubt was entertained that the man died of yellow fever, and that, at the time he was put on board the steamer in the Chesapeake, he had probably passed through the stages of invasion and reaction, and being a "walking case" of the disease he ventured upon the voyage to New York.

The point at which this man boarded the steamer is about twelve miles from Norfolk, from which pestilence-stricken city he had probably fled. No one who saw him on board the ship suspected that he was suffering from yellow fever.

*Case 5.*—A German, æt. 33, a professional nurse, left Norfolk, Va., Aug. 20th, remaining a day at Philadelphia; arrived in New York on the evening of the 22nd, feeling quite well; had a slight rigor, and suffered some vague uneasiness that night, but felt quite well in the morning. About noon the following day, the 23rd, he was seized with a severe pain in his head, accompanied with general discomfort and a sense of prostration. These symptoms soon passed away, so that he felt quite easy, and slept that night. On the succeeding morning he felt exhausted, and sick at his stomach. He took no food, did not vomit, and had no pain during the day. On the evening of this day, the 24th, he was admitted as a patient in the Marine Hospital. He was then free from pain, expressed himself as feeling usually well, with the exception of some oppression about the epigastrium. Skin, cool and moist; pulse, rather frequent and feeble, but, in no respect indicative of any disease; tongue, tumid, and slightly, but completely furred; eyes, natural; excepting that the corneæ were brilliant, while the general expression was languid. There was not the slightest tenderness of the epigastrium, nor was there pain in any part of the body; surface of the body sallow, but not icterode, and the patient had the aspect of a person exhausted by protracted vigils. He desired neither food nor drink, and believed that his illness was trivial, probably but the result of fatigue and loss of appetite. He was placed in a quiet portion of the ward; calomel, gr. v. and rhubarb ʒj. were administered, and a satisfactory fœcal and bilious evacuation secured. He slept some during the night, and next morning expressed himself as feeling quite comfortable, complaining only of a sense of prostration. The eye presented the same brilliance of corneæ, combined with a lachrymose suffusion, as was observed the previous evening. There was not the

least epigastric tenderness, nor any pain in any portion of the body. He desired neither food nor drink; pulse, normal; tongue, nearly clean, and more tumid than when first observed. Treatment—Quinine, in doses of four grains every fourth hour, was ordered, and the patient kept quiet in bed, and supplied with cold water if he desired.

No change was observed during this day; patient slept more than half of the succeeding night, and on the morning of the 26th only complained of general *malaise* without pain, and with no new symptoms, except that the tongue had become perfectly clean at the tip and edges; urine normal in appearance, and of about the usual quantity. The quinine was continued, and no other medication attempted, as there seemed to be no indications to be met except such as those for which the quinine was exhibited. During the night of the 26th the patient did not sleep, became thirsty; failed to evacuate the usual amount of urine; had a hot, dry skin, and complained of some pain in his back. Sept. 27th, the symptoms of the malady were unequivocal and ample. There was considerable tenderness on pressure over the epigastrium; conjunctiva had become slightly injected and icterode; tongue perfectly clean on its edges; pulse more frequent, being above ninety; leeches were applied over the epigastrium, and the quinine ordered in doses of eight grains every third hour. At evening the patient felt relieved from pain, but the symptoms were otherwise as in the morning. During the following night he rested indifferently, and on the morning of the 28th the symptoms had in no respect changed for the worse, except that they all continued. The eight-grain doses of quinine were continued, and had a marked effect upon the pulse, rendering it slower and fuller for an hour or two after each dose. There was constant oozing of blood from the leech-bites, but not in an injurious quantity. The epigastric tenderness seemed to be alleviated when this local depletion was promoted. It was estimated that about 25 oz. of blood escaped from the leech-bites before the patient died. On the morning of the 29th, it was found that scarcely any urine had been secreted during the previous night; tenderness of the epigastrium increased some nausea; great prostration of strength, and in every respect an aggravation of all the symptoms. The edges and tip of the tongue had assumed a dusky red hue, the vermilion border of the lips had a similar but lighter color, and during the afternoon blood oozed from them quite freely; epistaxis occurred once. The surface of the body became rapidly and intensely icterode, and the eyes more deeply injected. There were frequent attempts at vomiting during the day, but no black vomit was ejected. The mind continued perfectly clear and calm, but

from the first, very lethargic; there was no cerebral heat or pain. Most complaint was made of the epigastrium and limbs; no quinine was given after the discharge of blood from the mouth commenced; ice only was allowed.

The patient died early in the morning of the 30th; a little less than seven days from the first symptom of the invasion, and about three and a half days after the symptoms had become positively pathognomonic. No black vomit was ejected at any time; the intellect continued clear until the last; no evidences of cerebral congestion had been manifested.

*Autopsy six hours after death.*—Cadaver slightly rigid; the surface of the body deeply icterode, and, upon the back and sides, dotted with circular purpuric spots, and punctæ over the chest and limbs. The *brain* was large; considerable bloody exudation, slightly fibrinous beneath the arachnoid, which membrane was engorged with dark blood, but there was less exudation of fibrin than in cases previously examined; lateral ventricles contained more serum than in any case we have hitherto recorded. This serum was intensely yellow; at the base of the brain it was bloody. The cerebral mass was of normal consistence and appearance. *Thorax*:—Old pleuritic adhesions; about eight ounces of bloody serum in the pleuritic cavities, and considerable in the pericardium. The right ventricle of the heart, and all the venous trunks were filled with imperfectly coagulated blood, of a redish and very dark-brown color; and a small gelatinous clot of fibrine was found in the left ventricle. The *stomach* contained eight ounces of well-characterized, granular, black vomit; and a considerable quantity was found in the small intestines. The mucous membrane of the stomach and intestines exhibited an irregular hyperæmic appearance, was deeply ecchymosed in numerous and irregular patches, but no other alteration was observed. The *liver* was of normal size and consistence: of a bright yellow color on its surface, but of an olive-yellow hue when cut; it was engorged with portal blood, which, when washed out from a thin slice, left the hepatic substance of a deep yellow, dead-leaf color.

*Remarks.*—As regards the etiology of each of the foregoing cases of yellow fever, it may be observed that in case 1 and case 5, the patient had been immediately, and for a long time, exposed to the miasm that spread the pall of death over the cities of Norfolk and Portsmouth. Case 3 had been exposed to no other cause of the malady than such as existed on board the *Falmouth* at the time the ship left Havauna, more than two weeks before the disease appeared on



board in the person of the Midshipman, who died the day previous to the invasion of the fever, in G. The *Falmouth* touched and remained a short time at Key West, but there had been no yellow fever at that place. Case 2 had been recently exposed to the causes of yellow fever at New Orleans as well as at Havanna. I have been told that he was treated very freely with cathartics while on shipboard.

*Treatment.*—Though each of these fatal cases received all the benefit that we were able to procure, by the use of quinine, it is not believed that in any of them the medicine had much effect in protracting life; much less were there any evidences of any evil effects from the drug. Every dose of quinine that was administered appeared to produce a favorable impression upon the nervous system and the circulation. In no case was cinchonism induced, nor was any existing symptom aggravated by its use. In case 3, it is believed that the constant application of ice to the head prevented the occurrence of cerebral congestion, to such a degree as to render the post-mortem evidences of that condition less marked than in the other cases.

*Morbid Anatomy.*—In none of the cases did we find unequivocal evidence of inflammation in the stomach, or of any other viscus or tissue, unless the morbid changes observed in the brain be regarded as the results of inflammation. In all the cases we observed that the *membrana vasorum communis*, especially in the large venous trunks, exhibited traces of an apparent engorgement or hyperæmia, being of a dark color, with patches of ecchymosed surface; but upon close examination, it was evident that this appearance was owing to the straining and transudation or exosmose of the coloring matter of the blood that had circulated in the vessels. The lining membrane of the portal and hepatic vessels did not appear darker or more altered than in the pulmonic and systemic circulatory trunks.

The bloody extravasation from the arachnoid and the plexus choroides was presumed to be a mere transudation of disorganized blood. No organized coagula were found in any other place. The hematin of the blood seemed to be in a free state, as the blood stained everything with which it came in contact, in such manner that it was difficult to wash off the stain from the hand that held it for a time. The fibrinous exudations appeared less like fibrine than like gelatine. The muscular structure generally had a dusky, dirty, red color.

## PART SECOND.

### CRITICAL ANALYSIS.

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ART. VIII.—*Deformities after Fractures.* By FRANK HASTINGS HAMILTON. (*Trans. Am. Med. Assoc.*)

*Report on Dislocations, with especial reference to their results.* By DR. FRANK H. HAMILTON, of Buffalo. (*Trans. New York State Med. Soc.*)

THE treatment of fractures and dislocations has partaken of the general improvement of the science and art of Surgery. Whoever will peruse authors of a century or two past, will be surprised at the changes which have been effected in this branch of practical surgery. Their works are illustrated with an array of instruments and apparatus, which John Bell truly says, are "not unworthy of the chambers of the inquisition." Adopting, from the Arabians, the theory, that all the deformities after fractures were due to an improper moulding of the callus, the continental surgeons of Europe, for centuries, adhered strictly to the precepts of their predecessors, in the treatment of these accidents. The proper test of the surgeon's skill was the accuracy with which he applied a given number of bandages and splints. These dressings once adjusted were not to be disturbed until a given day arrived, no matter how great their inconvenience. Says Verduc, "Let the patient cry or roar ever so much, this is still a certain rule, that if your bandage is right, all the most considerable pain will cease in twenty-four hours; for such patients make a great deal of noise and whining for a trifling pain." This cessation of pain, however, but too often marked the existence of gangrene, as their works all prove; for gangrene is always mentioned as a frequent result of bandaging.

Improvement in the science of surgery was necessarily followed by a more rational practice; the belief that the shape and amount of callus determined the degree of deformity, gave place to the more rational belief that these results were due to mal-position of the limb. This doctrine was carried so far by Pott, as to dispense with all

dressings, and trust entirely to the position of the limb; the position sought being such as would afford complete relaxation of the muscles. Between these extremes, of trusting entirely to bandaging and simple position, lies the "golden mean" which modern surgery has seized.

But, notwithstanding all the modern improvements in the treatment of fractures and dislocations, it becomes us to institute the inquiry, What are the results of modern practice in the treatment of these accidents? In what proportion of cases do we restore to our patients perfect limbs? These questions have far greater significance in modern than ancient times, and to American than European surgeons; for in our day the surgeon's practice is more critically scanned than formerly, and, in this country especially, he is amenable for failures in practice to courts of law.

It is with pride we record the fact, that the first attempt to determine these questions by rigid investigation, was by an American surgeon. It is true, that these published results are an honest confession of the *failures* of the art of surgery in this country, which indeed are lamentable, but until other countries make a similar exhibit, we are justified in presuming, that in these papers not far from the actual results of the modern treatment of fractures and dislocations are faithfully recorded.

This investigation we regard as very timely, for the profession is beginning to be agitated with the question of protection from the inquisition of courts of law. And what is the surgeon's best security from prosecutions for failures in his practice? Not a change in the laws which merely hold him responsible for gross ignorance or neglect in the practice of his profession, but the establishment of the standard of the correct treatment of disease. As far as relates to fractures and dislocations, the statistics of PROF. HAMILTON go far towards assisting us in the formation of an opinion as to the average success of their treatment. If these results are reliable and actually correct, they must create a standard by which our practice is to be gauged. If deformity is the average of success in the treatment of any individual fracture, no surgeon can legally be held responsible for similar results, provided he has shown a proper degree of care. Hence their value in cases of prosecution must be incalculable. Already we are aware of one suit, which was decided in favor of the surgeon, from an examination by the Court and Jury, of Prof. HAMILTON's former statistics of the results of fractures of the leg and arm.

We are glad to learn that Prof. HAMILTON designs to expand these several reports into a treatise upon fractures and dislocations. The

statistics accumulated with so much labor and pains-taking, form an admirable basis for such a work, and, we trust, the day is not distant which will realize the author's intention.

It must be premised that Prof. HAMILTON does not give us simply the results of his own practice; he has, on the contrary, selected his cases from those treated by well-qualified surgeons. His examination of such cases has always been personal, and his records accurately made at the time.

*Ossa Nasi.*—Number of cases, 22: perfect, 4; imperfect, 18. In but 13 cases was a surgeon in attendance, and of these, 3 died within a short time; in 2, the nature of the injury was not recognized; in 8, attempts at restoration, were immediately made by qualified surgeons; of which number, 5 had perfect recoveries. This accident appears to be very often overlooked, both by patient and surgeon. In the restoration of the nasal bones, the author states that a smaller instrument must be employed than a female catheter. Union of these fractures are very prompt, often taking place in a week.

*Septum Narium.*—Number of cases 7; all imperfect. In none of these accidents was treatment employed, and in 3, no surgeon was in attendance.

*Ossa Maxilla Superiora.*—Number of cases, 6: perfect, 1; imperfect, 5. The treatment of these cases depends upon the character of the fracture. The fragments should not be hastily removed, as they have a strong tendency to unite. When the malar bone is depressed upon the antrum, Prof. HAMILTON advises to cut down, externally, and raise it with a screw levator, instead of passing an instrument upward round through the socket of a tooth, and thus elevating it to its position.

*Maxilla Inferior.*—Number, 18: perfect, 10; imperfect, 8. These fractures are rapidly repaired, and according to our author's experience never fail of union.

*Clavicle.*—The fractures of this bone are divided into incomplete and complete. Number of incomplete, 14; imperfect, 5; perfect, 7; not noted, 2. Boyer denied the existence of this fracture. Prof. HAMILTON not only recognizes it, but thinks there are two forms; one attended with, and the other without, lesion of the periosteum. He is even still more refined in his classification, for he describes three other interperiosteal fractures; the first being a mere band, the fibres on one side being expanded, and on the other compressed. Second, a fracture of the central fibres of the bone only. Third, fracture of the middle and outer

fibres on one side, but within the periosteum. The author remarks: "It is certain that these several injuries do occur;" but it is proper to add that he has never *demonstrated* them by dissection. Complete fractures of the clavicle are divided into those occurring at the middle, inner, and outer thirds, and the comminuted. By far the most frequent seat of fracture appears from Prof. HAMILTON's collection to be at the junction of the middle and outer third. They also prove the general assertion of authors correct, that these fractures usually unite with deformity. The author prefers Fox's apparatus. In an appendix are several illustrations, showing American inventions and modifications of apparatus for the treatment of fractured clavicles.

*Results of Dislocations.*—In our notice of this report, we shall simply copy Prof. HAMILTON's observations upon each variety of dislocation introduced, as his remarks are a sufficient commentary upon these different accidents. He thus introduces this report:—

It is equally true of dislocations, as of fractures, that neither general treatises upon surgery, nor monographs, have informed us sufficiently as to the results of these accidents. There is no lack of excellent instruction in the rules of diagnosis, or in the laws of treatment; but of the frequency of non-reduction and its consequences, of the amount and character of the maiming which is likely to ensue where the reduction has been effected, and of the length of time during which such maiming may be reasonably expected to continue, there is, I think, a palpable deficiency of information.

The young surgeon experiences, therefore, a constant embarrassment when interrogated as to the character and sum of the injury which the patient is to sustain; and what is more unfortunate still, I fear, if he entertains any opinions upon the subject, they are in general quite too favorable.

It is not difficult to see how the utterance of a favorable prognosis, which the result does not confirm, will lead to a distrust of the skill of the surgeon, if it does not establish in the mind of the sufferer a conviction of mal-practice. But still more certainly will the patient accuse us of ignorance and unskillfulness, if, in any case of a simple dislocation, we fail entirely to reduce the bone. It will be in vain, now that the mortified surgeon shall appeal to his printed volumes for justification, since he will seldom find any mention of failures or of unfortunate results; and I suspect his neighbors will not have any cases so unlucky as this one, with which to countenance and console him.

In this view alone the subject of "results" in dislocations is of sufficient importance to demand our attention. But there is another view in which it may be claimed to possess equal, if not greater interest. If it shall be found that other things being equal, certain results, more or less grave, pretty uniformly follow upon certain modes of reduction, we may hereafter choose with better judgment between the different procedures where more than one plan has been recommended, and be led

to devise new modes where no choice exists; and, moreover, I need scarcely add, that we shall be better able to declare what of the maiming is intrinsic to the accident, and what is attributed to treatment.

#### REMARKS.

*Clavicle.*—Of the nine collar-bone dislocations, eight occurred at the acromial or distal end, and one at sternal or proximal end. Of the former, seven were dislocations upwards, the bone being merely lifted from its articulation, but not made to ride over the scapula. In one case, (No. 8,) the dislocation was upwards and outwards, and must have been accompanied not only with a rupture of the capsular ligaments, as in all of the other cases, but also with a rupture of the coraco-clavicular ligaments, without which so much outward displacement cannot occur.

In most of cases the clavicle was easily reduced, but in no instance was it made to remain in place, not even measurably; the displacement being always as great after treatment as before. In all cases, except No. 3, where the result has been ascertained, the functions of the arm and shoulder have been more or less impaired, yet, generally the impairment has been trivial.

I am quite sure that it will not be found often, if ever, practicable to retain the scapular end of the clavicle in place when it has been once dislocated; and that the same difficulty will generally exist when the dislocation is at the sternal end.

*Humerus.*—My records furnish me with 44 cases of dislocation of the head of the humerus, of which 30 were downwards and 14 forwards. Of the whole number 38 were reduced, two of which are supposed to have become relaxed, and so remained at the time of my examination. Of the five which were never reduced, case 16 was recognized immediately, but the attempt to reduce it, on several consecutive days, failed. Cases 19 and 27 were not seen by a surgeon until some time after the accident. Case 44, complicated with a fracture of the same bone, was seen by a surgeon, but the accident not recognized. The history of case 28 is not known. About one-fourth part of the whole number now in place were reduced immediately, or within a few hours, and the remainder at periods varying from one day to eight weeks. In only three or four of the first class of cases were anæsthetics, or the mechanical appliances used, and in five or six of the latter. Two of the luxations were complicated with fracture of the same bone, and one was compound.

It will be observed that the procedures adopted by myself in the reduction of recent cases has been much varied in different cases, and sometimes in the same case, but that the reduction has been generally effected while pulling upon the arm outwards, and a little downwards from the line of the body. In some cases the extension has also been made successfully at right angles with the line of the body, and in others directly upwards and over the head, and in others manipulation alone, without extension, has been employed. But whatever direction has been adopted in the extension, I have never omitted to make a direct application of the counter force to the scapula, through the

acromion process, which I regard as vastly more effective than any counter force applied to the axilla, and to which, indeed, I have generally observed that the successful result was due. The necessity of avoiding the axillary margin with the heel, or the counter extending force, is well enough understood, but I doubt whether surgeons have sufficiently appreciated the difficulty of doing this, or, indeed, the complete impossibility of making here any effective pressure against the scapula, even though the heel shuns the muscular margins, and buries itself however deeply in the axilla. A moment's attentive consideration must convince us that by this procedure the scapula may be lifted outward from the body, but not certainly carried backwards in a direction opposed to the extension. If, therefore, the heel in the axilla serves any useful purpose, it must be as a fulcrum; it may also serve some useful purpose as a mode by which both the patient and the operator may be steadied while extension is being made at the forearm.

It is against the end of the acromion process, therefore, that I have always sought to make counter-extension when pulling downwards or outwards, and against the top of the scapula when pulling upwards.

I am aware that in this I am making to you, gentlemen, no new suggestion, but you will pardon me if I wish to impress upon you the full value of the principle.

The usual appliances for confining the scapula, such as a band across the acromion process, or a sheet with a fenestrum through which the arm is thrust, etc., I have found generally unreliable, and I have preferred the fingers or the hands of a stout assistant, or my own foot.

In one case only (case 20) have I resorted to the practice first suggested by Nathan Smith, of making the counter-extension from the opposite arm. The reduction was accomplished easily. I have no doubt of the correctness of the principle upon which the suggestion is based.

In several instances my attention has been called to a remarkable fullness in front of the head of the bone, which has continued for many months after the reduction has been effected, the patients having in some cases applied to me to know whether this did not indicate that the shoulder was not properly set, since, it seems, upon casual inspection, like a partial forward displacement of the head of the bone, and which seeming is the more conclusive because there is often a corresponding flatness or depression behind. Yet a careful examination has proven that this fullness is not due, in any degree, to the position of the head of the bone from non-reduction of the bone or laceration of its capsule. It is equally present where the elbow is carried forwards, and when consequently the head of the bone is thrown back in its socket, as when the elbow is carried back. It has been observed as often, also, as will be seen by reference to the cases, where the luxation has been downwards into the axilla as when it has been forwards. While I am not prepared fully to explain the cause of this phenomenon, I am disposed to regard it as a purely muscular fullness, and as having relation only

to the injury which the pectoralis major, or, perhaps, some portion of the deltoid muscle, has sustained.

I am certain that muscular contraction and rigidity is the most frequent cause of the complete ankylosis, as well as of the minor embarrassments to freedom of motion, which so often ensue upon those accidents, and which I would term *muscular ankylosis*, to distinguish it from those few cases of ankylosis which result from fibrous adhesion about the joint. In but few instances immediately after the reduction has the patient been able to lift the arm, by his own volition, to a right angle with the body, yet in every instance it could be lifted, without causing much, if any, pain, by the surgeon. The muscles, either by the displacement or in consequence of the means employed to reduce the bone, have suffered serious injury, and the present paralysis, where indeed it is not due to lesion of some nerve, must in some measure foreshadow the future contraction and rigidity.

In cases 27 and 28 of unreduced downward luxations, the patients could carry the elbow back much further than they could forwards; and in case of a forward luxation the same thing was observed, while in four cases a general muscular ankylosis occurred, which lasted many months, and during which time motions of the joint were nearly or entirely lost, the scapula moving always with the humerus. In each case, however, after a period longer or shorter, the motions of the joint gradually returned.

The application which I propose to make of these facts is, that the head of the humerus may be displaced after a reduction has once been well accomplished, by the mere force of a gradual muscular contraction, steady and long continued, and without the aid of extreme violence, or the intervention of sudden spasm; and that in case of an unreduced shoulder, we are not forced to conclude that it has never been properly reduced, because it cannot be shown that any new accident has occurred, or that the patient has had spasms of the muscles, or that he is subject to such dislocations from trivial causes, or, indeed, although the subject was not himself conscious of a sudden escape of the bone, since in such a case, the bone, stayed and supported on each side by muscles in a state of extreme rigidity, would move from its socket by the slightly preponderating action of one set, so quietly and silently as not to be observed.

My attention has been called, also, to the subject of the sound or tactile sensation produced in the reduction of this bone, and especially in reference to the medico-legal question, whether those present in the room, and not assisting in the operation, could have heard the reduction, and thus have become more competent to testify to the fact.

It was upon this point, so material to both parties, that medical gentlemen were not agreed in the case of ——— vs. the late Professor James Webster.

I find that in most cases there was a tactile sensation palpable to the operator and his assistants, and not always very easily distinguished from the sensation of audition, while in several cases there was an audible snap, heard distinctly in all parts of the room, but never was the snap audible where anæsthetics or mechanical appliances were used. Under



these latter circumstances a snap or a sudden slipping may occasionally be felt, but never heard.

*Radius.*—I have recorded 13 cases of dislocation of the head of the radius, of which 11 were forwards and 2 backwards. My experience, therefore, does not correspond with the experience of Gibson, Boyer, Chelius, B. Cooper, Guthrie, and others, who have met with the dislocation backwards much more frequently than the dislocation forwards.

Of the whole number of dislocations, backwards and forwards, of the head of the radius, seven were reduced immediately, or soon after the accident, yet only five remained reduced. Case 6 was relaxed by an attempt on the part of the father to straighten the arm, and case 14 was accompanied with a fracture which would not permit it to remain in place. Those which remained reduced have resulted in useful and nearly perfect arms. Of the eight unreduced, one was reduced after eight months, and continued in place; four, I think, were not recognized as dislocations at the time of the accident, although examined by surgeons; two were recognized, but the surgeons failed to accomplish the reduction; the remaining two were reduced, but became again displaced. These cases, so unfavorable to our art, since only 6 of 13 are permanently reduced, demonstrates, however, not so much the difficulty of accomplishing the reduction in cases of simple dislocation, as the difficulty of making the diagnosis. Surgeons are not agreed as to what is the usual position of the forearm, as to supination or pronation, in the dislocations of the head of the radius. I have examined more especially, in reference to this question, the unreduced cases. In cases 1, 7, and 8, of forwards luxation, the forearm was found forcibly proned; in case 3 it was in a condition midway between supination and pronation, and in no case, of either recent or ancient luxation, have I found it supined. I found the arm proned also in case 13 of dislocation backwards. I have seen but one dislocation of the lower end of the radius, and this was not complete (case 14).

*Ulna.*—No cases of luxation of the ulna have been recorded. I do not remember ever to have seen a dislocation of the upper end of the ulna without, at the same time, a dislocation of the radius. Nothing is more common, however, than a diastasis of the ulna and radius at their lower ends, or perhaps quite as frequently it may be regarded as a diastasis of the ulna and carpal bones through a rupture of the internal lateral ligament, in consequence of which the styloid process of the ulna is made to project slightly outwards, and occasionally forwards or backwards. This partial separation occurs, I believe, in all cases of fracture of the lower end of the radius, accompanied with displacement of the fragments, and in most cases where no such displacement exists. In twenty-four cases of this fracture, recorded by me, no exception to this rule is mentioned. In some instances the projection is, however, very trivial, while in others it is very striking.

The same thing is present after the majority of severe sprains of the wrist joint, and it is not unfrequently observed in both of the

wrists of old persons; occasionally, also, it is observed in those who are younger, but of a lax and feeble habit, with whom it exists not as a consequence of any accident, but only of that preternatural laxity of the capsular and ligamentous structures, which may produce equally a splaying of the foot or a yielding and diastasis of any of the articulations.

Accompanying the displacement there is, also, unusual mobility of the lower end of the ulna, so that by moderate pressure the deformity may be sensibly diminished. But I have never seen any permanent good derived from either splints, or bandages, or compresses, or from any other mechanical means which have been employed to retain the bone in place. On removal of the pressure the deformity has always returned, and I think always in the same degree as before.

*Radius and Ulna.*—Of the twenty-one dislocations of the radius and ulna, eighteen occurred at their upper ends, seventeen of which were dislocations upwards and backwards.

Eleven of the upward and backward dislocations were reduced; one of which, however, (case 17,) did not remain in place.

Of the eight unreduced dislocations, two were treated at first by empirics, and the nature of the accident was not ascertained. Five were examined and treated from the first by intelligent surgeons, who, in cases 1 and 6 supposed them to be fractures of the lower end of the humerus, and in cases 2, 3, and 15, recognized the dislocations, but were unable to reduce them. Whether in either of these three latter cases the dislocation was complicated with a fracture of the coronoid process, I am unable to say. In case 17 the coronoid process was probably broken.

Three dislocations have occurred at the lower ends of these bones, of which one only, (case 18,) was complete. This was a compound dislocation, and terminated fatally on the fourteenth day.

*Metacarpal Bones.*—The report contains two of these cases, both of which remain unreduced.

*Thumb.*—Seven cases of dislocation of the thumb are given. Of these, all were simple, and were never reduced, no attempt being made—two reduced immediately and perfect; three reduced immediately, two of which became ankylosed; one was dislocated a second time, and remained so.

*Femur.*—The three recent cases of hip dislocation were reduced by the ordinary methods, namely: by extension and counter extension, with pulleys. In relation, therefore, to the mode of reducing dislocated hips by manipulation alone, I have no experience, and of its value I do not feel competent to speak in any manner authoritatively. Yet I confess that notwithstanding occasional reports of reduction by this mode from different sources, I have felt some hesitation in admitting its general applicability; and I have ventured to express the opinion that at last, and after a fair *concours*, it would be found to be of limited application. A paper, however, from the pen of Dr. Thomas M. Mar-

koe, one of the attending surgeons to the New York City Hospital, and contained in the January number of the New York Journal of Medicine, for the present year, has very much abated my skepticism, and I am encouraged to hope that this process, when the principles upon which its success is dependent have been more fully determined, will be found in a majority of cases both safe and practicable.

Of the six dislocations recorded by me, only two are now reduced. Case 2, however, was accompanied with a fracture of the upper margin of the acetabulum; case 4, was not seen by a surgeon, and no attempts at reduction were made until after a long time; case 3, was seen by a surgeon, and the nature of the accident was misunderstood; and case 5 was seen the next day, and reduction attempted, but without success.

The result, therefore, is more favorable for surgery than at first the final summary might seem to indicate, since in only one recent case, uncomplicated with fracture, did the surgeon fail. Whether the distinguished operator in this case, Chelius, of Heidelberg, would have succeeded better by a resort to judicious manipulation alone, I cannot say. The patient assures me that it was not tried.

*Tibia.*—Of the seventeen dislocations of the tibia, the whole number occurred at the lower or distal end. Sixteen were dislocations inwards; the only remaining dislocation, case 17, being a dislocation forwards. Of the sixteen inward dislocations, seven were complicated with fracture of the fibula; six with fracture of the fibula and malleolus internus; three were compound and complicated with fractures also. Two of the compound dislocations resulted in amputation and recovery; one was not amputated, and the patient died. Of the fourteen dislocations which were complicated with fracture, but not compound, two remain unreduced and only four are known to have left no permanent deformity.

No cases of dislocation of the lower end of the tibia outwards are recorded, since all displacements of the tibia outwards must involve a displacement of the fibula also in the same direction.

In every instance the dislocation of the tibia inwards has been accompanied with a fracture of either the fibula or of the malleolus internus, or of both. I think, however, I have seen two or three inward dislocations of the tibia without a fracture, but I find no record of such cases, nor does my memory enable me to recall them.

In classifying dislocations of the ankle, I have adopted the usual nomenclature, and have named all those dislocations in which the tibia projects inwards from the foot, "inward dislocations of the tibia," yet I have some doubts as to the propriety of this appellation. This accident seems to me to have been in general rather a lateral rotation of the foot upon the lower articulating surfaces of the tibia and fibula. Of all the ginglymoid joints, the ankle approaches most nearly in form to a ball and socket joint, in consequence, especially of the marked prolongations of the malleolus internus and externus. In other ginglymoid articulations, lateral displacements are not unfrequent, but lateral rotation can scarcely by any accident occur. Here,

however, the reverse holds true; lateral displacement is difficult, while lateral rotation is comparatively easy of accomplishment.

The majority of cases which occur involving a disturbance of the relative position of the ankle joint surfaces, are, I am satisfied, of this latter character, viz.: lateral rotations within the capsule, and other than true dislocations; and although the restoration of the joint surfaces to position, is, in general, easily accomplished; yet, in consequence of either a fracture of the fibula, or malleolus internus, or of a rupture of the internal lateral ligaments, it will almost always happen that some deformity will remain. The fragments of the fibula will fall inwards towards the tibia, and the foot unsupported by either its fibula, or its internal ligaments, will incline perceptibly outwards. Nor can this be prevented, usually, by any mechanical contrivance. Indeed it would be easy to demonstrate, as I have often done to my pupils, that even Dupuytren's splint, usually employed in this accident, must fail of success in a great majority of cases; since the subsequent deformity is due, less to the fracture of the fibula and its consequent displacement, than to the loss of the internal ligaments, which loss nature can seldom fully repair. The whole apparatus of the joint has suffered greatly, and its form and functions, therefore, are not likely to be completely restored, whether the fibula has participated in the injury or not.

If, however, it were true that a fracture and displacement of the fibula is the sole, or essential cause of the subsequent deformity, it would still be found generally impracticable to avoid the maiming, since it would still remain impossible to lift the broken ends from the tibia, against which, or in the direction towards which, they are so prone to fall. Inversion of the foot does not accomplish it, nor have I ever been able to make anything but the most trivial impression upon the upper end of the lower fragment by pressure upon the lower extremity of the fibula.

I think too much confidence have been placed in the efficiency of "Dupuytren's splint." I believe, indeed, that this splint ought generally to be preferred as a means of support and retention, after this accident; but I doubt whether it is able to accomplish more than a moiety of all that its illustrious inventor proposed.

In two, only, of all the cases reported, am I quite certain that there was an actual internal displacement of the tibia upon the astragalus (4 and 5); but even in these cases it seems probable that the displacement was not complete, but that a small portion of the articular surface of the tibia continued to rest upon the astragalus. In neither of these instances was reduction ever accomplished. The cause of this failure I am not able to explain.

If, therefore, we confine ourselves strictly to those cases in which it is certain that the internal dislocation was complete, there remains only the barren and unfortunate record of the three compound luxations; cases 6, 13, and 16, of which one died, and two recovered after amputation.

*Tibia and Fibula.*—Of these there are four cases reported; two were displaced outwardly, and two backward; one attended with frac.

ture of the fibula; remainder simple. Two were reduced and recovered; one became partially displaced; one unreduced, being caused by rheumatism.

*Tarsal Bones.*—Two cases; one astragalus forward, compound with fracture of femur, fatal on 10th day; second, cuboid forward, simple, partially reduced immediately; quite lame after one year.

ART. IX.—*The Transactions of the American Medical Association.*

Instituted 1847. Vol. viii. Philadelphia. 1855—pp. 763.

*The Transactions of the American Medical Association* have again made their appearance with commendable promptness and dispatch. The early publication of this volume must give great satisfaction to its annual subscribers, who fairly represent the reading portion of the profession, of the different sections of the country. The delay of nearly a year after the session of the Association, before the issue of its transactions, as formerly, lessened the interest of contributors to its pages not less than its general readers. This change is due to the transference of its publication, in 1854, from Philadelphia to New York. And, however much some may have opposed the change, all must agree that it has insured an earlier period of publication of this annual volume.

There will, we think, be this objection to the proposed publication of the transactions at the city where the Association last holds its meeting, that the volumes will not be uniform either in style of typography or binding. This is seen in the volumes of '54 and '55; and the difference will, doubtless, be greater hereafter. We hope our fears may not be realized, and, that, while other cities enjoy the honor, as well as labor, of issuing the transactions of the session held in its locality, the uniformity of the series may not be broken by a change of publishers.—Each volume should represent the highest style of the typographical art in this country.

*The Address of* CHARLES A. POPE, *President of the Association.* The address of DR. POPE is a brief but very sensible production, containing suggestions of importance relative to the interests of the Association. These are as follows:

A more lengthened session, to give time for a full discussion of the numerous reports, papers, and subjects brought before it.

The proposal of subjects for discussion a year in advance, to give opportunity for thought and preparation.

The selection of a place for the permanent meeting of the Association.

*Report on the Diseases of Missouri and Iowa*; by THOMAS REYBURN, M.D., of St. Louis, Mo.—This is the most lengthy communication in the volume, extending over 240 pages, and still it is but a partial report. It is a most elaborately written paper, containing communications from a large number of physicians, who have generously responded to the call of the Chairman for information. The associates of Dr. REYBURN are Dr. JOHN EVANS, of Chicago, Ill.; Dr. JOHN F. SANFORD, of Keokuk; and Dr. JOHN H. RAUCH, of Burlington. We shall not attempt an analysis of this report, which abounds in matter of local, rather than general interest. We trust its learned and laborious compiler will not weary of his task, and that in a future volume we may welcome its completion. It will then be a most valuable sanitary survey of that magnificent territory, which is hereafter, we believe, to be the theatre of the highest industrial, social, and intellectual development of the human race.

*Report of the Committee on the Hygrometrical state of the Atmosphere in various localities, and its Influence on Health*; by SANFORD B. HUNT, M.D., of Buffalo, N. Y.—Dr. HUNT has been unable to report upon the variations of humidity of the atmosphere in other localities than those of his immediate neighborhood, and hence his paper contains but few facts of importance bearing upon this subject. He has, however, given an interesting general survey of the humidity of different regions of the United States, which will repay perusal.—We shall notice only the author's conclusions relating to the following questions:

1.—*Does a deficiency or excess of humidity produce a direct effect upon the health of the individual?*—The conclusion is, that a small actual weight of vapor in the air is not, then, sufficient to impair health; but a "combination of small actual weight, with great capacity for absorption, as on a mountain, would render prolonged existence impossible, simply from its evaporative effect." He is inclined to believe that a high dew-point, with a low fraction of saturation, is not sufficient to cause disease.

2.—*Can an excess of humidity, that is, a high dew-point with a high fraction of saturation, of itself, and uncombined with other causes, act as a direct cause of disease?*—Dr. Hunt's investigations lead him to doubt if high humidity, as an uncombined cause, can give rise to zymotic diseases; but he considers it certain that high heat and humidity combined, have a direct effect upon the progress of an epidemic, when once established. The inception is due to a special cause, its progress to the relative humidity of the air. He cites the

papers of PROF. BLODGET, and Dr. H. D. SWIFT, published in the *New York Journal of Medicine*, the former on *The Climatic Conditions of the Summer of 1853*, the latter on *Coup de Soleil, or Exhaustion from the Effects of Heat*. These articles contain the history of an epidemic (so-called) of Sun-Stroke in this city in the Summer of 1853. During its prevalence, there was a remarkable high degree of heat, combined with excessive humidity. Dr. Hunt inclines to the theory of Dr. Barton, of New Orleans, that a high dew-point, combined with certain "terrene causes," are essential to the prevalence of epidemics.

The report of Dr. Hunt is devoted to an extremely interesting and important inquiry, and we hope the author will prosecute his investigations to their completion.

*Report on the Diet of the Sick*; by CHARLES HOOKER, M.D., of New Haven, Conn.—The paper of PROF. HOOKER is an elaborate review of the subject of Dietetics. After noticing briefly the physiology of nutrition, the author discusses the *General Principles and Common Errors of Diet*, at considerable length. The following rules are deduced therefrom:—1. In eating, sufficient time should be allowed for perfect mastication and insalivation. 2. Solid food should constitute the greater proportion of the diet. 3. An excessive quantity of drink is to be avoided. 4. Food should be taken at regular times, and with proper intervals. 5. The diet should consist of a variety of food. 6. The diet should consist of both nitrogenized and non-nitrogenized aliment in due proportions. The concluding part of the report is devoted to the *Rules for diet in particular diseases*.

1.—*The Diet in Dyspepsia*.—The reliance for cure of this disease is stated to be on appropriate diet. "Regular meals taken slowly and with perfect mastication," the writer remarks, "a rigid abstinence from drinks, and a cautiously increased variety of diet, constitute a simple prescription for dyspepsia, which, with appropriate medication, will rarely fail. Instead of a definitely prescribed course of diet, the patient should be encouraged gradually to train the digestive organs to the use of all common kinds of food. Plain and easily digested food should be at first selected, but, with frequent change, avoiding the continuance from day to day of any one favorite dish. The weak and irritable organs must not be suddenly crowded and disturbed by unaccustomed food, but articles which prove offensive, and cause uneasiness, instead of being discarded, should be again and again tried, until the intolerance of the stomach yields."

2.—*The Diet of Phthisis*.—The following errors of diet the author

has commonly noticed in phthisis. 1. Irregular eating. 2. A restricted variety of food. 3. The avoidance of oily nutriment. 4. Excessive use of drinks.

3.—*The Diet in Typhus Fever.*—Dr. Hooker considers a judiciously regulated diet of great importance in typhus: regulation of the digestive function and the nutrition of the system cannot be neglected without injurious consequences. He believes that if the appetite is encouraged early by a continued regular use of food at customary times, it need not be wholly lost. But as the physician is not usually called until several meal-times have passed, the consequence is that “the digestive organs, their natural stimulus being withheld, cease to perform their accustomed offices; their secretions are suspended, the appetite is lost, and these organs, especially the gastric mucous membrane, become irritable and inflamed. To obviate this “morbid condition of the digestive organs, and to restore their natural action,” the proper means are “alterative medication and a regular use of food.” Calomel in one full dose, or in frequent small doses, and in some cases an emetic, answer the former indication; and a small quantity of dry nutritious food, “such as dry toast or crackers,” used at regular times of meals, meet the latter. Regularity in the administration of food is strongly insisted upon. The writer gives the results of his treatment of typhus for the last two years, as follows: Number of cases, 195; deaths, 8. He adds, that in the Connecticut Hospital, where this plan of dieting is followed, the average mortality of typhus for twenty-three years, has not exceeded four per cent.

4.—*The Diet in Dysentery.*—In this disease we have the same instructions in regard to diet as in typhus; regular meals of light, solid food, etc. The author’s success in the treatment of 223 cases of severe dysentery, in 1849, was 96 per cent. of cures. In 1854, however, he lost about 8 per cent.

5.—*The Diet of Nursing Women.*—We have in these cases the same recommendation as already noticed, viz.: regular meals of solid food, without drinks. The nursing mother should abstain from the too free use of liquids, as it impairs the quality of the milk.

*Report on Scrofula;* by WM. H. BYFORD, M.D., of Evansville, Ind.—This report is a lengthy discussion of the Nature, Etiology, and Treatment of Scrofula. It is a well-written paper, but as it contains no new facts of practical interest, we shall not attempt an analysis.

*Report on the Means of Preserving Milk, etc.;* by N. S. DAVIS, M.D.—This report relates principally to the method of solidifying milk, as practised by Mr. Samuel T. Blatchford, of Dutchess Co.,



N. Y. This milk has already been made the subject of a report, by a committee of the *Academy of Medicine*, of this city. As we have not before alluded to that report, we will here introduce an extract, showing the value of the article when thus prepared :

"We have traced the milk of the rich pasturage of Dutchess County, from the udder to its final conversion into the solid tablet; and we find it, in all its stages and appliances, to be based upon a thorough knowledge of the chemistry and dynamic tendencies of the natural fluid. It is not within our province, nor would it be proper here, to detail the steps of this operation; and it will suffice for this to state that the article called "*Solidified Milk*," obtained from that locality, and presented to us for examination, is nothing but the solid constituents of pure milk, combined with a little less than an equal part, by weight, of white sugar; that it contains no other foreign substance; that the various solids of the original fluid are preserved intact, even the butter globules being unbroken; that it is readily and perfectly soluble in water, and when it is so dissolved in proper proportion, it is in fact milk, as it was secreted by the cow, with the sole exception of the sugar which accompanies it; that the only medicinal or culinary operations in which ordinary milk is required, and this article cannot be used, are those in which sugar is inadmissible, while, on the other hand, whenever sugar is required in connection with milk, they are here found together.

In fact, the article under consideration presents some advantages over ordinary milk, even of the purest quality, arising from the variety of degrees of solution in which it may be employed. For example, in some diseases of the digestive organs, whether of infantile or adult life, where a more concentrated nutriment than ordinary milk may be required, it is at once attainable, as this article may be administered either in a solid or liquid form; it may be eaten like candy, or dissolved in almost any proportion, and in its ordinary use at the table or in the kitchen, we at least have the advantage of being able to dilute it for ourselves, instead of being obliged to rely upon the uncertainty of the extent to which this process is carried by those who supply us at our doors."

Prof. Davis has used this preparation in several cases, and concurs in their opinion of its importance. The principal objection alleged against it are: 1. It contains an extra quantity of sugar. 2. Its empyreumatic flavor. 3. Its price, being at the rate of five cents a pint for pure milk.

*Report on Dysentery*; by H. TAYLOR, M.D., and J. H. BEECH, M.D.—This report is made up entirely of communications from private practitioners, principally of the State of Michigan. It contains, therefore, as the chairman justly remarks, "what would forever have remained latent, except for the action of the American Medical Association." Its facts are of local interest.

*Report on the Effects of Alcoholic Liquors in Health and Disease*; by R. D. MUSSEY, M.D.—This is a well-digested essay on the effects of alcoholic liquors, with conclusions inclining strongly to tee-totalism. Dr. Mussey has long been the advocate of temperance, both in foods and drinks. This paper embodies the reasons upon which he grounds his faith in regard to the deleterious effects of ardent spirits, and will repay perusal. We cannot, however, profitably notice it farther at this time.

*Sketch of the Caustic Pulverizer*; by R. H. THOMAS, M.D.—This is an apparatus consisting of a mahogany box, two wheels and a "grindstone." The purpose of it is to reduce the caustic to an impalpable powder for inhalation by the patient. The inventor speaks favorably of this method of applying the nitrate of silver to the air passages.

*Prize Essay—Statistics of Placenta Prævia*. By JAMES D. TRASK, M.D., of New York.—In the deductions of this essay there is enough to satisfy the cravings of the most fastidious lover of statistical research. By the production of this paper, its author will extend still farther his reputation as a faithful statistician in obstetric medicine. But it is to the practical character of the deductions he has drawn from the mass of facts he has collated, in the preparation of this essay, that we must confine our notice. There are three tables, under which are arranged the principal facts of 353 cases. Table I. consists of cases subjected to the various ordinary modes of treatment, embracing recoveries and deaths, and a few that died undelivered. Table II. embraces cases of spontaneous expulsion of the placenta, prior to the birth of the child. Table III. includes cases in which the placenta was artificially detached before the birth of the child. In the analysis of the cases, our author has evidently sought to select from their histories every statement of fact-bearing upon the condition of the patient, or upon the influence of medical treatment. But our space will not permit us to examine, in detail, these facts. The author deduces the following as the course which the experience of the profession has shown to be the most likely to be attended with success in the management of placenta prævia:

1.—"We have shown that, as a general rule, cases in which delivery takes place prematurely are attended with greater risk to the mother than those occurring at the full time, with the exception of those before the seventh month, which rarely prove fatal, in consequence of the undeveloped condition of the blood-vessels of the womb at that early period. The probabilities of the child being saved are probably better

at full term, though this is not so distinctly shown by our statistics. Hence, if it be possible, cases in which premature delivery is threatened ought to be conducted to the full period.

"This was the advice of Mr. Kinder Wood, a successful obstetrical teacher, who was in the habit of detaching the placenta in cases of dangerous hæmorrhage from its presentation. When hæmorrhage comes on before the completion of the term of pregnancy, absolute rest and cold, with, in some cases, opium, should be resorted to for the purpose of restraining hæmorrhage, *avoiding* the use of the *tampon* until the progress of the case indicates that extreme measures must be resorted to; for the introduction of the tampon, in the cases in which it is noted, was, in certain instances, soon followed by labor pains more or less effective. But, when its use is determined upon, a suppression of the hæmorrhage may be confidently relied upon for a time, at least, provided its introduction be skillfully effected. In many instances, however, at this early period, the hæmorrhage continues, and artificial delivery is the only resource.

2.—"Most cases of *partial* placental presentation require only rupture of the membranes. By this simple expedient, the uterus is brought into active contractions, and hæmorrhage restrained within, moderate limits, or entirely suppressed, until delivery takes place spontaneously, as occurs in a large proportion of cases, or is accomplished by art. But hæmorrhage, in cases of partial presentation, is not always thus controlled, and our first table furnishes not a few which were attended by most alarming loss of blood.\*

3.—"In cases of complete presentation, if hæmorrhage does not yield to simple measures, and in dangerous cases of partial presentation, early delivery is of the first importance. To select the most favorable opportunity, for this is often one of the most critical tests of the physician's skill. To do this before the os has become dilatable is to incur the risk of inflicting serious lesions upon the uterine neck, and a difficult and protracted withdrawal of the child; while, to wait unnecessarily long, is to expose the patient to great hazard from unnecessary loss of blood. The rule should be to wait not for a dilated, but a dilatable condition of the os. The great source of danger in the conduct of cases of placenta prævia is the delay required to permit the necessary dilatation of the mouth of the womb; while waiting for this necessary prerequisite to delivery, exhausting hæmorrhage has often taken place, from the effects of which the patient has never recovered.

"With the hope of keeping the bleeding in check during this necessary delay, the membranes may be advantageously ruptured; for we need not, in these cases, fear any embarrassment to delivery from this cause, inasmuch as the uterus is almost invariably relaxed after severe hæmorrhage. The administration of ergot, under such circumstances, in the manner already described, with the view of keeping up a pressure upon the mouths of the bleeding vessels until the os should dilate, is sanctioned by the results in some of our cases in which it was

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\*Of the eight cases lost among Dr. Lever's cases, four were complete, and four partial presentations.

employed; and although not often given, as we judge, with this particular view, it promises to be, in many cases, a valuable resource.—In Dr. Fountain's two cases of complete presentation, rapid dilatation took place under its repeated administration; a compression of the placenta was kept up until the os permitted the introduction of the hand for turning, and both mothers and children were saved. In this way we imitate, to a certain extent, the course pursued by nature in spontaneous expulsion of the child.

"The inhalation of *ether*, in one instance, quickened labor, and chloroform, in another, seemed to favor relaxation of the uterus. How far these agents, especially the latter, may prove subservient to this important object, experience has not yet determined.

4.—"But whatever means may be resorted to for keeping in check the flow of blood while the os is undergoing dilatation, the physician should not leave his patient after that process has begun. Dangerous, and even fatal, flooding sometimes takes place even when the os is yet undilated, as happened in a case recorded by Smellie. Dr. Rigby laid down the rule, that the patient should not be left by her physician after the placenta was discovered to be presenting. This rule he afterwards modified, as the interval, in such cases, is too long to justify the sacrifice of time. But the physician should remain beside his patient until active hæmorrhage has ceased; and if dilatation is in progress, it is imprudent to leave the bedside until delivery has been effected. It has occurred in the experience of every physician to be surprised by the unexpectedly sudden dilatation of the os in some cases of ordinary labor. On reading several of our cases, it is very apparent that from a neglect of the precaution here urged, the physician failed to be at hand when sudden and fearful hæmorrhage took place, followed by perilous and even fatal exhaustion. Such sudden losses of blood are not uncommonly accompanied by a degree of dilatation of the os uteri that would render immediate delivery admissible, as in Case 69, from Rigby.

"It corresponds with the experience of those who have had the largest opportunities for observation, and is an inference certainly warranted by a general survey of our cases, that of patients who enjoy intelligent and active medical assistance from the commencement of hæmorrhage until the termination of labor, a very large proportion are conducted through their perils in safety, and no inconsiderable proportion of the children are saved. An early delivery by turning has been sanctioned by long experience, as the best general mode of treatment for securing safety to mother and child.

5.—"But in some instances, hæmorrhage will not yield to the means thus far recommended, and the os continues unprepared for artificial delivery. In these cases we may separate the placenta, with the confidence of almost certainly putting an end to the hæmorrhage, and with an almost equal certainty of destroying the child; unless the os should permit artificial delivery within a short time after the separation is effected. The urgency of the symptoms in such instances, is sometimes very great, and it must be left to the judgment of the practitioner, in each individual instance, to determine whether to separate the placenta or to wait still longer.

6.—“The os may be dilated or dilatable, and the patient in a state of extreme exhaustion. Here, turning could be performed with facility, but delivery would be hazardous. In these cases the placenta may be detached with much less disturbance to the mother than would occur in turning under such circumstances, and an opportunity afforded for the patient to rally before she should be delivered. Table III. affords several instances in which spontaneous delivery took place after such separation, and the patient recovered. Yet even in these cases, we must bear in mind that children are by no means necessarily destroyed by excessive loss of blood by the mother; and a resort to the stethoscope would doubtless often prove of great assistance, where in doubt as to the propriety of detaching the placenta. When we have satisfactory evidence that the child is dead, there can be no objection to an early resort to the separation of the placenta.”

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## BIBLIOGRAPHICAL NOTICES.

ART. X.—*A Manual of Pathological Anatomy.* By CARL ROKITANSKY, M.D. Translated from the last German Edition, by WM. EDWARD SWAINE, M.D., EDWARD SIEVEKING, M.D., CHARLES HEWITT MOORE, and GEORGE A. DAY, M.D. Four volumes in two. Philadelphia: Blanchard & Lea, 1855.

THE appearance of this great work in an English dress is one of the fruits of the Sydenham Society, London. Had it accomplished nothing more in the way of making accessible to the English medical reader, valuable works, forever “sealed books” as far as the mass is concerned, it would have laid our profession under lasting obligations by this one act.

The name and fame of Rokitansky is familiar to every American reader. He is the authority to which they have been accustomed to refer every disputed pathological question. With advantages far surpassing any living pathologist, he has devoted his life thus far exclusively to the study of one department. Having no previous knowledge of the diseases of the subjects which he examines, his mind is entirely unbiassed, and his investigations are those of pure science.

The edition of Prof. Rokitansky's works before us is in two convenient volumes, and is equally as valuable as the costly London Edition for reading and consultation. Whoever, therefore, has any desire to learn the teachings of this great master, in relation to any pathological inquiry, or to study pathology simply as a science, cannot dispense with this work. As a correct pathology lies at the basis of correct therapeutics, we earnestly hope this cyclopædia of pathological knowledge, will find its way to every practitioner's library.

ART. XI.—*A Treatise on Medical Jurisprudence.* By FRANCIS WHARTON and MORETON STILLÉ, M.D. Philadelphia: Kay & Brother, 1855, pp. 815.

WE have in this volume the combined efforts of a legal and medical gentleman, to illustrate the subject of legal medicine. It would seem

that for the preparation of a complete and comprehensive work of this kind, legal and medical learning are indispensable. The great work of Paris and Fonblanque was the result of this association of the two professions. Chitty's work, the most frequently consulted by legal men of any single treatise, is to a considerable extent the joint production of that eminent legal writer and a medical man. Our own countryman, the late Dr. Beck, has, however, proved that a medical man, single handed, is competent for the task of writing a treatise on Medical Jurisprudence, complete in both its legal and medical aspects, and equally adapted to the wants of both professions.

The work before us is divided into six books; which severally treat of the following subjects:—Book I. *Mental Unsoundness*. II. *Questions Relative to the Fetus and New-Born Child*. III. *Questions Arising out of Difference of Sex*. IV. *Questions Relative to Identity*. V. *Questions Relative to the Cause of Death*. VI. *Legal Relations of Homicide, Feticide, and Infanticide*.

In the division of labor, it fell to Dr. Stillé to prepare the second, third, fourth, and fifth books; the first and sixth books, with several chapters having a more strictly legal learning, being left to his associate.

The first book on *Mental Unsoundness*, extending to 228 pages, is the most completely written section in the work. Insanity, in its various forms and in all its legal relations, is presented to the reader with fairness, candor, and copious illustration. This essay is so full, that it may be considered a complete treatise upon the medical jurisprudence of insanity, and has very properly been issued as such in a separate form.

The remainder of the work, for the most part the production of Dr. Stillé, gives evidence of great industry in the collection of material, and a sound, discriminating judgment in its arrangement, and in the deduction therefrom of rules and principles for the guidance of medical and legal men. The section on poisoning is especially full and complete.

This portion of the work has also an additional, but melancholy, interest to the medical profession, in being the last literary effort of the author. Mr. Wharton feelingly alludes to this fact in the preface, and pays a high but merited tribute to the memory of his lamented associate.

The work, as a whole, we unhesitatingly commend to the attention of the medical profession. It is better adapted to the American practitioner than Taylor's Manual, and though not so full as Beck's, has the advantage of that author's voluminous treatise in being later in publication and far more accessible.

ART. XII.—*Letters to a Young Physician just entering upon Practice*. By JAMES JACKSON, M.D., LL.D., Professor Emeritus of the Theory and Practice of Physic in Harvard University, etc., etc. Boston: Phillips, Sampson & Co., 1855. 12mo. pp. 344.

WE commend these letters to the attention particularly of the junior portion of the profession. There is much in them that, in a practical

point of view, will prove useful; while the ethical view that pervades them cannot but serve to make them better men and more honorable members of our profession.

ART. XIII.—*An Outline of Medical Chemistry for the Use of Students.* By B. HOWARD RAND, A.M., M.D., Professor of Chemistry in the Philadelphia College of Medicine, etc., etc. Philadelphia: Lindsay & Blakiston, 1855. 12mo. pp. 259.

THIS useful little volume is truly directive in character, and in it are inserted such facts as are of the most importance to the Medical Student. As an *outline* of Medical Chemistry, which outline should be filled up by the aid of text books or lectures, it cannot but prove highly useful to those for whose use it was designed.

ART. XIV.—*Physiological Chemistry.* By PROFESSOR C. G. LEHMANN, Translated from the Second Edition, by GEORGE E. DAY, M.D. Edited by R. E. RODGERS, M.D. With Illustrations, Selected from Funke's Atlas of Physiological Chemistry, and an Appendix of Plates. Complete in two volumes. Philadelphia: Blanchard & Lea, 1855, pp. 648 and 546.

THE republication of the works of Lehmann is due to the Cavendish Society of London. Like the Sydenham Society, this body was organized for the purpose of effecting the translation and publication of expensive foreign works, which no individual enterprise could safely undertake. That these Societies have respectively accomplished tasks which entitle them to the gratitude of every lover of the highest departments of medical science, our pages at this time bear abundant evidence.

Prof. Lehmann ranks deservedly among the best writers in the department of physiological chemistry, and his treatises are regarded in Germany as the highest authority. The present is the translation of the second edition of his great work, and is as nearly complete as a rapidly advancing science would admit at the period of its publication. The American edition is still more valuable than the English, in having appended to it, selections from the illustrations of the atlas of Dr. Otto Funke. The work thus perfected needs no commendation at our hands.

ART. XV.—*The Disease of the Rectum.* By RICHARD QUAIN, F.R.S. Second edition, with additions. New York: Samuel S. & William Wood, 261 Pearl-street. 1855. pp. 332.

WE take great pleasure in announcing the issue of a second edition of this excellent treatise, by the Messrs. Wood of this city. Although the first edition was published but a year since, a second is now called for, which the author has carefully prepared. It is now the best treatise on the diseases of the rectum and easily obtainable by the practitioner.

# PART THIRD.

## FOREIGN MEDICAL RETROSPECT.

### PRACTICAL MEDICINE.

*Apoplexy in Relation to Chronic Renal Disease.*—The following extract is from an interesting paper, by W. SENHOUSE KIRKES, M.D., in the *Med. Times and Gazette*:—The intimate connection thus apparently subsisting between sanguineous apoplexy on the one hand, and diseased cerebral vessels, enlarged heart, and renal disorganization, on the other, as deduced from the foregoing analysis, will, perhaps, be best apprehended by viewing the result of this analysis in a kind of tabular form. The 22 cases of sanguineous apoplexy may then stand thus:—

Cerebral Vessels.	Heart.	Kidneys.	
Diseased.....	Diseased.....	Diseased.....	12 times.
".....	".....	Healthy.....	3 "
Healthy.....	".....	Diseased.....	1 "
".....	Healthy.....	".....	1 "
".....	".....	Healthy.....	2 "
".....	Diseased.....	".....	1 "
Diseased.....	Healthy.....	".....	2 "
			—
			22

From this it appears that

The Cerebral Vessels were diseased	17 times
The Heart	" 17 "
The Kidneys	" 14 "

It cannot but be evident from this impartial analysis of 22 fatal cases of sanguineous apoplexy, in which the different organs were carefully examined, that disease of the kidneys, heart, and cerebral vessels stand in very close relation to the apoplexy; and this relation is the more evident when it is borne in mind that in more than half of the cases, the kidneys, heart, and cerebral vessels, were found coincidentally affected, while in only two cases was there absence of decided disease of any of these parts.

Such being the principal information yielded by an analysis of these cases, two questions seem naturally to be suggested by it: first, what relation do the renal, cardiac, and arterial diseases bear to each other? Secondly, what share do they severally take in the production of apoplexy? As regards the relation subsisting between the renal, cardiac, and arterial disease in sanguineous apoplexy, I believe that the affection of the kidneys is the primary disease, and that the other lesions are developed secondarily, and in the order just indicated, viz.: hyper-



trophy of the heart, disease of the cerebral arteries, and extravasation of blood from rupture of these diseased vessels. That structural disease of the kidneys, of such nature as to interfere permanently, or for a long time, with their functions, has among its most frequent and prominent accompaniments, an hypertrophied condition of the left ventricle is, as already said, a fact now almost generally admitted by pathologists.—Of the various explanations of this pathological fact, the most probable, perhaps, is that which regards the blood as so far altered from its normal constitution by retained principles of urinary excretion, as to move with less facility through the systemic capillaries, and thus to require increased pressure, and consequently increased muscular growth of the left ventricle, to effect its transmission. To this, perhaps, may be added, among other additional causes, the direct influence on the circulation, resulting from the impeded transit of blood through two such large and vascular organs as the kidneys, in consequence of the structural change which has taken place in them. On whatever cause, or set of causes, it may depend, however, hypertrophy of the left ventricle of the heart, in consequence of prolonged renal disease, may, I think, be regarded as a well-established fact; and to the affection of the kidneys, therefore, may be referred the enlargement of the heart found in 9 of the 13 cases of associated cardiac and renal affections in the analysis above given, and part of the enlargement noticed in the 4 cases where the valves were considerably diseased.

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*External Employment of Oil of Turpentine in Consolidated Lungs from Pneumonia.*—One of the most interesting features we have recently noticed in Dr. Todd's practice, at King's College Hospital, is a plan of treating solidified lungs and strumous pneumonia by turpentine—a mode not new, possibly, but eminently valuable, and one in which Dr. Todd seems to gain greater confidence every session. If we dwell on minor points of this character, it is because we see such cases too often overlooked, as they present themselves in the out-patients' department of hospitals, and because this medicine has been the secret of many reputed cures of consumption amongst practitioners, outside the profession.

J. B—, aged twenty-one, was admitted into King's College Hospital, October 2nd, suffering under various symptoms of chest disease, the result of a severe attack of pneumonia. Dr. Todd pointed out to his class that the entire lung of one side was completely solidified. This lung had, in all probability, gone through the three stages of pneumonia so familiar in practice, but often so very unmanageable in their results, the first and second stages of pneumonic inflammation usually merging into one another, and leaving the lung quite solid.

The first, or congestive stage, is easily cured, when detected early, as we recently took occasion to show in cases in the practice of Dr. Willshiro and Dr. Parkes. The second stage, in which these congested vessels relieve themselves by fibrinous exudation into the lung, and slight hæmorrhage, as shown in the characteristic rust-coloured expectoration, is also very curable. It is not very well named, per-

haps, as hepatization, in which the lung is sprinkled sometimes with pinky granulations, and which Bayle and others look upon as the first stage of tubercular disease. Dr. Todd also described the exudation into the parts, with its granular blastema, blood-corpuscles, and exudation-cells, the latter, perhaps, traceable from the state of granular corpuscles to that consolidated stage where we now meet it, or the third stage of this disease—that of grey hepatization, with its various mottlings or spotting of the lung. A purulent fluid sometimes exudes, yet this is not essentially a state of suppuration, though very nearly allied to it; it is also different from tubercle, though in many cases next door to it,—the chief practical point, to Dr. Todd, being, that the consolidation of pneumonia does not necessarily destroy the vesicular structure of the lung, no more than effusion into the iris, in iritis, removable by mercury, destroys the structure of that delicate part; the inflammatory effusion, in pneumonia, occurring almost universally through the lung tissue, as well as *into* the air cells, and the inter-vesicular tissue. In a very advanced stage of pneumonia, it is true, we may have pulmonary abscess. This was evidently not the case in the present instance. The treatment adopted by Dr. Todd, and which he finds most effectual, was the following:—Wine, six ounces, daily; a draught every third hour, composed of julep of acetate of ammonia, with aromatic spirits of ammonia in excess; and strong turpentine stupes, carefully applied, every night and morning, over the back of the chest and site of the consolidated lung. Diet moderately stimulating.

October 4th.—On seeing this patient two days after, we found he had already begun to improve; the lung, previously quite dead, as far as respiratory murmur was concerned, began to give signs of healthy vesicular murmur. The right lung, as will have been observed, is most usually that affected. Dr. Todd has great faith in the stimulant action of turpentine—a remedy not often used, but which in this and numerous other cases has proved almost specific in its action. In phthisical cases, also, it may be used, combined with strong acetic acid, when its action becomes even still more beneficial.

25th.—This man is quite well.—*Lancet*.

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*Nocturnal Cerebral Disorder in Children.* By C. H. JONES, M.B.—These cerebral disorders are, I believe, instances of the injurious action of the malarious influence which has been for some time widely diffused in London. Aguish affections, neuralgiæ, and rheumatic pains are exceedingly prevalent among the patients who visit St. Mary's, and they are not confined to them. In the cases above cited, I believe the brain or its membranes were the seat of the disorder. It is difficult to give it an accurate name, and perhaps better not to attempt, but to content one's self with indicating its affinities, which are clearly with rheumatism and neuralgia, or ague. Dr. Macculloch, in his able work on marsh fever and malaria, has clearly pointed out the possibility of cerebral disorder being the result of malarious miasma, and it seems highly probable that the central nervous organ might suffer in

the same way as the peripheral. I have lately had a delicate female under my care, who was married, and did not seem to be what is usually called hysterical, who suffered severely from attacks which appeared to be of this kind. She described them as consisting of a feeling of wretchedness, misery, and stupidity, as if she were quite lost, while at the same time such bad thoughts came into her mind, that she did not like to be alone. "She is obliged to get up and do something at these times, or she does not know what would happen." She finds taking a stimulant, or speaking to another person, relieves the bad feelings. Under arsenic, iron, and quinine, she improved a good deal; the attacks became much less frequent, but did not cease. The action of the malarious influence in this case was rather of a paralyzing kind, while in the cases above recorded it was more irritative. All my patients were weakly girls. In none of them was there any apparent organic disease. The attacks in all of the cases were nocturnal. In Nos. 1 and 3, iodide of potassium with iodide of iron was very efficacious, and was useful also in No. 2. This is a considerable evidence in favor of the rheumatic character of the affection. Quinine and citrate of iron and quinine were also decidedly beneficial, but I much incline to think that change of air, removal to some elevated healthy spot, would have been the best remedy of all. In Nos. 2 and 3, the abdominal organs were not in a healthy state, but it was evident that the disorder was not merely the result of irritation communicated from them to the brain. It is very certain that any lowering treatment would have been injurious. The flying pains in Case 1, and the swollen face in Case 3, help to indicate a rheumatic element in the disorder.—*Med. Times and Gaz.*

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*Diuretics in Renal Dropsy.*—The question as to whether diuretics should be employed in the treatment of those cases of dropsy, which, from the condition of the urine, are known to depend upon diseased kidney, is one of great practical importance. Our readers may be glad to know the opinion of so excellent a physician as Dr. Burrows, respecting it. A few days ago, Dr. Burrows, at the bedside of a patient who was recovering from a very severe renal dropsy, made the following remarks:—"I wish, gentlemen, that you should notice the treatment which has been here pursued. I well recollect that long ago it used to be Dr. Latham's observation that this form of dropsy was often very efficiently treated by the tartrate of potash. That salt was, indeed, his favourite remedy. Then came the addition to our pathological knowledge, and the announcement of the fact that the disease was essentially one of renal disorganization. From this it was thought to follow clearly, that whatever stimulated or irritated the kidney must do harm. Diuretics, consequently, fell into almost universal disuse. Latterly, however, some of us are again coming back to the old practice; we find that no other remedies effect so much for the relief of the patient as diuretics, and we, therefore, prescribe the latter. The matter is one of experience, and my own is to the effect that the kidneys, though in a state of chronic disease, obey diuretics

well, and that no inconveniences are produced." The prescription which the patient, in this case, had been taking was as follows:—*Rx* Potassæ tartrat. ℥ss., spirit. æther. nitr. ℥ss., aquæ piment. ℥j. *Ft.* haust. ter die. The case was, of course, one of chronic dropsy, and the diagnosis as to its renal cause, had depended upon the absence of cardiac disease, and the presence of a large quantity of albumen in the urine.—*Med. Times & Gazette.*

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*Leucorrhœa as a Symptom of Phthisis.*—Mr. Anderson relates (*Assoc. Jour.*) cases of leucorrhœa in persons having well-marked symptoms of phthisis, in which the leucorrhœa was cured by relieving the chest disease. The following remarks and case illustrate his views:

There are two classes of patients in whom I generally suspect, and in whom I very frequently find that phthisis exists; the first, where they have been married for several years but have never become pregnant, and have suffered also from some continued irregularity of menstruation, accompanied with a perpetual leucorrhœal discharge; the second, where they have suffered from similar symptoms under similar circumstances, with the exception of becoming pregnant, but never carrying a child the full period, frequent abortions taking place. The question then arises as to the propriety of stopping the discharge in such cases; as a general rule, it is decidedly wrong to do so; for, as we well know, there is always an outgoing from the system in phthisis, expectoration, sweating, or diarrhœa, and these often interchange, and take the place of one another; these drains, if not excessive, are beneficial, and serve the purpose of relieving the impeded circulation, and preventing the occurrence of congestion in the already impaired lungs. This remark holds equally good with regard to leucorrhœa; and no doubt this drain serves the same purpose as the others, and when moderate, should not be interfered with; but if it becomes evident that debility is increased by any drain upon the system, that drain must be cautiously checked or moderated according to circumstances.

Mrs. S., aged 28, December 28th, 1853. Has suffered from a severe leucorrhœal discharge since her last confinement, which occurred five weeks ago; the lochial discharge, at the usual time, lost its characteristic colour, and was succeeded by one perfectly clear, and profuse in quantity, which continued in the same state until three days ago, when it became sanious. There is great pain in the back and loins, with much bearing down and frequent sickness. She has had six children at the full period; and her recent labour is reported to have been bad, and attended with considerable hæmorrhage. She is troubled with cough and expectoration, which is brought up with difficulty. There is a vomica in the upper lobe of the left lung, and tubercular deposit in both sides. Tongue pale, lips bloodless, pulse weak and quick. No local treatment was employed in this case, as it evidently depended upon recent parturition taking place in a phthisical patient. Attention to the chest symptoms and general health stopped the discharge, and relieved her for the time being.

*Pulmonary Phthisis cured by a Gonorrhœa.*—DR. RICHARD relates (*L' Abeille Med.*) the following case:—A man, æt. 28, farmer, of a lymphatico-sanguine temperament, was affected, at the age of 25, with a gonorrhœa, which was promptly cured by injections. Soon after, his health began to fail with pulmonary symptoms, as cough, and puriform expectoration, pain in the right side, chills followed by fever and night sweats, hæmoptysis, and cavernous râle. While these symptoms were progressively increasing in severity, he contracted a gonorrhœa. Dr. R., reflecting upon the occurrence of severe symptoms soon after his former cure, employed only mild remedies against his new disease. The result was very favorable, for the pulmonary symptoms soon began to decline, and in two months disappeared. The gonorrhœa was then cautiously treated, and eight months after the cessation of the discharge there was no return of the chest symptoms.

*Treatment of Eczema.*—MR. C. H. JONES reports several cases of Eczema, with the following remarks on the treatment:—

I have notes of about forty cases, for the most part out patients, at St. Mary's Hospital. Some of them might, perhaps, have been more properly classed as impetigo; but I do not love straining after subdivisions, and I group them together, because they all had the same general easily recognized features; viz.:—the pouring out of an exudation, which was serous or sero-purulent, from a more or less inflamed and excoriated or superficially ulcerated surface. Out of forty cases, fifteen were below the age of five years, and twenty-three below that of ten. The cases occurring in children have generally appeared to me by far the easiest to manage; as indeed is the case with most of the diseases of the young frame, yet sound and “integer vitæ.” The treatment which I now adopt invariably in such instances (it being understood that active inflammation is not present), is to give a minim of liquor potassæ arsenitis three times a day to a child one year old, desiring all scabs to be removed carefully, and dilute citrine ointment (3iiss to 3iiss) to be rubbed into the affected parts once a day. I have often given a few drops of liquor potassæ conjoined or not with a grain of iodide of potassium, with the above dose of Fowler's solution; but it has not appeared to me to be of any particular advantage; and I now mostly use the arsenic alone. Instead of the citrine ointment, I have used in several cases zinc ointment with nitric-oxide of mercury (ʒj to ʒij), or unguentum hydrargyri ammonio chloridi diluted, or bichloride of mercury lotion (gr. v-x to ʒij). I am not very sure, however, that one has any particular advantage over the other, except that the zinc and nitric-oxyde combination, especially if about a drachm of subcarbonate of lead be added to it, seems to be best suited to irritable excoriated surfaces pouring out much discharge. With this treatment, I have every reason to be quite satisfied; the only thing that I feel some hesitation about, is, whether some amount of relapse may not take place when the remedies are discontinued. However, as I do not find that any discharged cases return again upon my hands, except in rare instances, I think relapse cannot be very frequent.

In one case, I tried the effect of dilute citrine ointment alone, and it unquestionably did good; but the eruption was not satisfactorily cured without the administration of arsenic. In this class of cases, I have not attempted any particular restriction as to diet, and have not found it necessary. With regard to the action of the arsenic, I believe it operates as a tonic to the nerves of the affected part, induces constriction of the vessels, and, therewith diminishes the abnormal hyperæmia, and arrests the discharge. This view of the *modus operandi* of arsenic in curing skin diseases was first put forth by me in a paper published in the *Lancet* for July 21st and 28th, on paralytic conditions of the sympathetic. I there pointed out that the same tonics that cure neuralgiæ, cure agues, in which vascular congestion is the prominent feature; and I stated that it seemed to me reasonable to consider that in the one case the remedial action was exerted on the cerebro-spinal, in the other on the sympathetic, nerves. If we know that a drug has a determinate action in one instance, affecting one particular tissue, is it not exceedingly probable that in other instances, where its action though certain is more obscure, it also acts in a like manner? Thus we have three facts perfectly well ascertained, and which might be regarded as having no mutual relation; viz.:—1, that arsenic cures neuralgia; 2, cures ague; and 3, cures skin-diseases. Now, if we did not know that palsy of the sympathetic causes congestion of the vessels to which it is distributed, and in states of debility even inflammation, we could not see how there should be any affinity between neuralgia, ague, and skin-disease. But the experiments of Reid, Bernard, and others, have shed such a light on the relation of the nerves to the blood-vessels in many pathological processes, as can only be appreciated by the observant and philosophic medical practitioner.”—*Association Med. Journal*.

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*Skin Diseases.*—The following notes from PROF. HEBRA'S Annual Report of Diseases of the Skin, treated at the Vienna Hospital, is from the *Assoc. Med. Jour.*:

I.—*Acne*.—17 cases (13 males, 4 females). Vapour bath and washing with soap and alcohol, sufficed to cure all these cases. There were 4 cases of the allied affection *syccosis*, all of which were successfully treated by inunction with iodide of sulphur ointment, and the application of strong nitrate acid as a caustic.

II.—*Ecthyma*.—13 cases (11 males, 2 females), generally associated with scabies or pediculi, and induced by the scratching. Warm fomentations sufficed for the cure.

III.—*Eczema*.—150 cases (96 males, 54 females). Hebra includes under this term the various forms of impetigo, tinea, and porrigo; there being, as he believes, no difference between them and eczema impetiginosum; for, on destroying the efflorescences, or removing the crusts and scabs, we then perceive the characteristic phenomena of eczema—red, moist places, with more or less infiltration of the cuticle. With regard to the cause of the disorder, it was traced with certainty to an elevated temperature (either exposure to the sun or working at

the oven) in 22 cases; to irritation of the skin by ointments, plasters, etc., in 21 cases; to the repeated action of water in washing clothes, to fomentations, etc., in 9 cases; to scratching the skin, in consequence of the irritation caused by pediculi, in 20 cases; to varicosity of the veins in 19 cases; and in eight cases it was associated with anomalies of menstruation.

The modes of treatment were very various, but in each patient the system commenced with was adhered to.

1.—In 46 cases, cold water alone was used, in the form of fomentations, baths, douches, etc.

2.—In six cases, a wash of sulphate of zinc (3 j to the pint of water) was used.

3.—One case was treated with corrosive sublimate baths.

4.—In 2 cases, the parts were kept moist with a dilute solution of potash (3 j to the pint of water).

5.—In 3 cases, the caustic action of a concentrated solution of potash (3 j 3 ij of water) was tried.

6.—In 70 cases, soft soap was used. It was usually applied night and morning, for three consecutive days, to the diseased places, which were then covered with flannel, and left untouched for four consecutive days. This process was repeated till the moisture and itching disappeared, and there was merely a red, dry, squamous surface remaining, (pityriasis rubra,) which was treated with tar.

7.—In 19 cases, tar was used; the best being that obtained from the wood of the beech or of the juniperus oxycedrus (the product in this case being the oil of cade). The action of both these agents is nearly the same, but the latter is the least disfiguring, and, therefore, most applicable for diseases of the face. We have already indicated the proper period for commencing this form of treatment. The affected parts are smeared over once or twice a day, till an unbroken blackish brown investment is formed, which usually happens after about half a dozen applications. During this time, the parts must not be touched with water. The longer the tarry covering remains, the more certain is the result of its action. If it soon falls off, this is a sign that moisture is still exuding, and we must return to the preceding treatment (merely with soft soap).

8.—In 3 cases, the expectant method was trusted to.

Whatever was the external treatment, internal remedies were at the same time used, to improve the general health; as, for instance, cod-liver oil in the scrofulous cases, aloes and iron in the chlorotic cases, etc.

IV.—*Elephantiasis Arabum*.—6 cases (4 males and 2 females). In 5 cases, the leg was affected; and in one, the penis and scrotum. One patient recovered in consequence of prolonged pressure by bandaging; and in 4 others, an improvement was manifested. One woman died from phlebitis, but compression had not been used.

V.—*Favus*.—13 cases (7 males, 6 females). In all these cases the scalp was the seat of the disorder; and in this position the disease is especially persistent, from the fact that the peculiar microscopic fungi of favus occur within the hairs, which thus form a reservoir of

spores, from which a new development of favus masses springs up when the older masses have either fallen off or been removed. [When favus occurs in any other part, it always runs an acute course, and disappears spontaneously in a few weeks.] The treatment consisted in keeping the affected spots as clear as possible, and extracting the diseased hair with the fingers.

VI.—*Herpes*.—28 cases, (21 males, 7 females). One was a case of herpes circinatus, 2 of herpes iris, and the remaining 25 of herpes zoster. The treatment in all the cases was expectant.

VII.—*Herpes Tonsurans* (occurring in 5 men), and *Pityriasis Versicolor* (in 13 men) were always cured in the course of a week or two by active inunction with soft soap, and then covering the part with flannel. The soap should be rubbed in for the space of ten minutes daily for from four to six days, and a layer of about a line thick left, before flannel is laid.

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#### SURGERY.

*Irritable Bladder*.—The following cases may be conveniently grouped together, as affording hints in practice where there is excessive pain with irritability of the genito-urinary organs without the cause being very obvious.

1.—The first is a case of a man, aged fifty-six, (W. II—), on whom we saw Mr. Ferguson operate, about the middle of July, for distressing and continued irritability of the bladder, in whom, in a word, there had been present, for a long time, some of the worst symptoms of stone in that viscus, without stone being present. All the ordinary remedies had been previously tried in vain, when Mr. Ferguson, as a last resource, suggested and had recourse to the operation of cystotomy—an operation not at all like lithotomy, as he stated at the time, but more in the manner of Syme's or Allarton's operation in the mesian line of the perinæum, the intention being to cut across the nervous plexuses and irritable parts at the neck of the bladder. August 18th:—About a month after we saw this patient again; he expressed himself wonderfully relieved as regarded the torture he had previously suffered; the wound was then still open in the middle line of the perinæum, though the urine passed through the natural passage. Oct. 5th:—we find the man is quite well. The patient was a very bad subject for any operation, his entire system having suffered from the effects of long-continued pain of a neuralgic character.

2.—A poor woman in St. George's, under the care of Mr. Pollock, with an almost perpetual call to pass urine, had yet no disease of the bladder. A small vascular tumor was found at the opening of the urethra. Mr. Pollock applied the strong nitric acid to it. These tumors easily bleed; they are exquisitely sensitive, causing great pain on micturition, with irritation sometimes extending to the mucous membrane of the bladder itself. Excision, in such cases, is followed usually by a new growth, if the strong nitric acid, or, what is better, the actual cautery, be not subsequently applied. The case has done very well.



3, 4.—Of these two cases, one was under the care of Mr. Adams at the London Hospital; the second, under Mr. Paget at St. Bartholomew's. In both instances there was intense irritability of the bladder. Both patients were young. All the usual signs of stone were present without stone. A great difficulty exists in such cases as these in discovering the cause of the irritation; hæmorrhoids, calculus, fistula in the rectum, will usually be suspected or perhaps discovered; but in both these cases the surgeons felt quite at sea on the subject, as no cause for the disease could be found. Uva ursi, alkalis, opiates, etc., afforded temporary relief.

5.—E. F.—, aged twenty-eight, single, was admitted into Boynton ward, St. Mary's Hospital, under Mr. I. B. Brown. She states that about twelve months previously she began to have pains in the bladder and bearing down in the rectum and vagina, pain during and after defecation and leucorrhœa. She had suffered much in her general health from the intense pain and profuse discharge of the last few months; was emaciated, dyspeptic, and firmly impressed with the idea that she was laboring under extensive cancerous disease of the womb; there was much lumbar pain, sympathetic pain in the thighs, and very great irritability of the bladder, as well as some derangement of the menstrual functions. On examination per vaginam, no evidence could be obtained of uterine disease, and attention was therefore directed to the rectum. Upon introducing the finger into this viscus, a fissure of the mucous membrane was detected just within the orifice, and a streak of blood on the finger after withdrawal marked its length. This case (oftener met in practice than suspected) told at once its own history. Mr. Baker Brown divided the mucous membrane through the ulcerated surface with Copeland's knife, cutting, at the same time, a few fibres of the sphincter ani. One grain of solid opium was ordered to be taken every six hours, and the patient was placed on simple diet. At the last report we find that great improvement has taken place in the patient's condition; pain, both local and sympathetic, has disappeared; the leucorrhœa is gone; she has had evacuations of the bowels without suffering, and her cheerful countenance is in strong contrast to her former dejected aspect. Ordered five grains of ammonia-citrate of iron, and a quarter of a grain of quinine, in water, three times a day. She was discharged perfectly well."—*Lancet*.

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*Cystic Sarcoma of the Testis.*—From a paper on this disease in the *Med. Times and Gaz.*, we learn that it is very rare. But five cases have occurred in the London hospitals in three years; Cooper mentions but five; Curling, none. Two views are held in regard to its nature. 1. Sir Astley Cooper believed that the cysts were dilated gland tubes; and he is supported by Quekett and Curling. The objection to this explanation is, that the gland lies external to the growth, and is separated from it by a fibrous capsule. Mr. Curling, however, believes that the disease begins in the tubes of the rete testis, thus obviating the objection. 2. Mr. Paget gives his opinion of their nature as follows:—"The specimens that I have seen of it

make me think that it is essentially a fibrous, or fibrous and cartilaginous tumor, in the testicle, with more or less cyst formation in the tumor."

The following is a summary of sixteen cases reported in this paper : *Age*—extremes, 18 and 58. *Duration*—average, 21 months; extremes, 3 months and 11 years. *Health*—good, 6; impaired, 3; not mentioned, 7. *Cause*—blows, 5; not known, 4; not mentioned, 7. *Result*, all recovered from operation. *Condition of tumor*—cysts in all; enchondroma in 3; cancer in 1; cholesteatoma in 1. *Gland structure of testis*—expanded over tumor in 8; lost in the tumor in 4; not described, 4. *Epididymis*—healthy, 6; involved in disease, 3; not noticed, 6. *Remarks*—in three cases the cysts had developed intracystic growths.

*Punctured Wound of Pericardium—Recovery.*—A case occurred to Mr. Erichsen, in which a man, stabbed with a knife in the fourth intercostal space, over the heart, presented the symptoms of wound of this organ, viz.:—face pale and anxious, pulse 112, respirations 28 and painful, etc. He was actively treated by local depletion, calomel, and rest, with success.

*Nævus.*—MR. BIRKETT has removed a very large, square-shaped nævus from the walls of the abdomen and side of the chest of a middle-aged man. The tumor was thick, broad, and hard, studded with wart-like eminences, and exhaling a sanguineous serum, which was rapidly reducing the patient. The dissection required great care, but was successfully accomplished, and the patient recovered.

*Aneurism—New Method of Treatment.*—Mr. Ferguson has treated several cases of subclavian aneurism by a novel method. It is by pressure of the thumbs to break up the fibrinous layers in the cavity of the aneurism, which, floating down into the brachial artery, block up its calibre, and thus cause a partial stoppage of the current through the aneurism. This effects a cure on the principle of Brasdor's operation, on the distal side of the aneurism. In one case, two years had elapsed after this treatment was resorted to, and the cure appeared complete.

*Popliteal Cured by Compression.*—Mr. Adams, of London Hospital, treated a case successfully by compression, which originated from the kick of a horse. The part was dusted with flour, and a 4lb. weight applied; this was changed to a 7lb. weight on the 2nd day: on the 6th day the clamp tourniquet was applied to the lower part of Scarpa's triangle, which succeeded; in less than a month the cure was effected.

#### THERAPEUTICS.

*Nux vomica as an Aperient.*—Among the conditions over which *nux vomica*, and its active principle, strychnia, possess most useful powers, is that of habitual constipation, from muscular atony of the intestinal tube. At the City Hospital for Diseases of the Chest, we observe that Dr. Peacock and Dr. Andrew Clark are both in the habit of frequently resorting to it for this purpose. It is generally given in

combination with the compound rhubarb pill, and in doses of the extract of from a sixth to half a grain. Of itself it can, perhaps, scarcely be deemed an aperient,—that is, it does not so much excite peristaltic action, as supply tone to the weakened muscular coat, by which it is enabled to respond efficiently to other irritants. Hence the need for combination with rhubarb, aloes, or some similar drug. Dr. Peacock mentioned to us a case under his care in St. Thomas's Hospital, in which a man of feeble intellect, and torpid nervous system generally, had derived great benefit from its employment. At first, the bowels were obstinately costive, and lavements produced no action; but since the use of the nux vomica (twice daily, gr. ss.) they have so far increased in power and susceptibility, that simple injections are quite sufficient, and procure all the action that is necessary.—*Med. Times and Gaz.*

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*Acid Beef-Tea.*—The following is the formula for an acid beef-tea, which Mr. Paget has recently introduced into use in St. Bartholomew's Hospital. It was originally suggested by Leibig, and is intended, in cases of great debility, to supply the stomach with fluid nutriment, which, containing its own acid, will task the digestive powers in the least possible degree.

- Take of beef, veal, or chicken, chopped fine, half-a-pound,
- “ of hydrochloric acid (strong), four drops,
- “ of water (cold), eighteen ounces,
- “ of common salt, a pinch.

After macerating for an hour, strain off the fluid, using no pressure. The remaining meat may be treated with half-a-pint of water, and a second solution obtained. If the fluid be not clear a second straining will be needed. The solution does not taste acid, and is very palatable. Pepper, or other spice may be added, according to the patient's taste.—*Ibid.*

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*Chlorate of Potash in Ptyalism.*—In two cases of severe salivation from mercury, recently under his care at the Metropolitan Free Hospital, Mr. Hutchison has employed the chlorate of potash, administered internally. In each a rapid cure was effected. The first case was that of a prostitute, aged 19, who, suffering from primary syphilis, had been ordered five grains of blue pill, and a quarter of a grain of opium, twice a-day. After taking nine of these pills, profuse and most threatening ptyalism set in. The lips, cheeks, and gums, became much swollen, the breath was fetid, and there were large ulcerated surfaces on the inside of both cheeks. She could not eat, and the pain kept her awake at night. The original sore had nearly healed. Fifteen grains of chlorate of potash, thrice daily, in an ounce of water, were ordered, no other treatment whatever being adopted. On the next day there was marked improvement; on the third day all fetor had disappeared, and the ulcers were nearly healed; at the end of a week she could eat crusts, and the mouth was, in every respect, perfectly well. In the second case the disease was in a milder form, but the benefit was not less marked.—*Ibid.*

*Tormentilla as an Astringent.*—The decoction of tormentilla, a remedy in not very general use, is, we observe, a great favorite with Mr. Hilton, of Guy's Hospital. It is employed in cases of piles, passive hæmorrhages, diarrhœa, etc., as a tonic and astringent. A few weeks ago, Mr. Hilton ordered it (in doses of an ounce and a half every three hours) to a patient in whom hæmorrhage from the bowel had occurred four days after an operation for hernia, and took the opportunity of observing to his class that it was one of the most efficient vegetable astringents that he knew.—*Ibid.*

*Nitric Acid and Sulphur as an Escharotic.*—Mr. Cock has recently been employing, in some cases under his care, in Guy's Hospital, as an escharotic, a compound of nitric acid and sulphur. A paste is made by mixing the strongest nitric acid with sublimated sulphur, until of a proper consistence. This paste is applied to the diseased surface, the surrounding parts having been protected by plaster, as when chloride of zinc is used. The mixture does not run about. It appears to give less pain than the nitric acid alone, and acts longer, producing more of an eschar. In one case Mr. Cock employed it to remove a prominent mass of granulations in fungous testis, and it succeeded well. A cure, however, did not result, as a subsequent attack of inflammation aggravated the condition. We understood Mr. Cock that the formula had been suggested to him by Sir Benjamin C. Brodie.—*Ibid.*

*External Use of Cod-Liver Oil in Skin Diseases.*—The reader may find in the *Medical Times and Gazette* for January 3, 1853, page 23, a short notice of the employment of cod-liver oil in certain forms of skin disease, more especially in eczema. The remedy was then new in this country, and the trials on which our observations were founded, had been made in St. Bartholomew's Hospital, by Mr. Paget, to whom it had been recommended by Professor Malmsten, of Stockholm. Since then the oil has, we believe, been extensively used in England, and with much the same favorable results which Mr. Paget obtained from it. We refer to the matter again, in order to allude to a paper, recently published by Professor Malmsten, himself, in a Berlin Medical Journal on the various uses of the fish oils, and more especially on their external employment against intractable skin diseases. The practice of the Swedish physician appears to have been most successful; and amongst the cases narrated as having been cured, are examples of chronic and impetiginoid eczema, impetigo, psoriasis, chronic pityriasis, and prurigo formicans. The plan adopted differs somewhat from what we have seen followed in this country. Instead of using the oil merely as an ordinary liniment, the affected parts are directed to be kept constantly soaked with it. If the whole skin be affected, the patient is made to lie in bed; all his body and bed linen being saturated with the oil. This system is continued until the skin is restored to health, the patient being allowed an alkaline bath once a week, but no other washing or change of clothes being permitted.—*Ibid.*

## PART FOURTH.

### AMERICAN MEDICAL RETROSPECT.

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*Abortion following the Administration of Chloroform.* By L. G. ROBINSON, M.D., of Detroit, Mich.—Some of the zealous advocates for the anæsthetic effects of chloroform, in the practice of midwifery, claim for that agent, efficiency of specific action upon the contractile fibre of the uterus. And in the diversity of experience and observation, which is found among writers respecting its utility, it has obtained a “duplicity of character,” or specific energy, which, if founded in truth, must have a *rationale* in some law of physiology. Whatever may be gathered from practical observation, contributing to the exposition of that governing law or principle, will be of interest to the profession, just in proportion to the amount of evidence fairly deduced from facts. Therefore, I offer the following case, the detail of which may have some weight worthy of record :

A few days since, I was summoned to the bedside of Mrs. N.—, an English lady, aged about 35, whose history is briefly as follows:—About four years since she came to this country, and soon after her arrival, became a resident of this city. She had been married six years, was the mother of two children, and had uniformly enjoyed excellent health. In appearance, she possesses a robust, vigorous constitution, of phlethoric habit, and florid complexion—true to the English model. Nearly two months after her arrival in this city, she aborted in the 3rd month of pregnancy, the cause of which was attributed to a fall, and mechanical injury. She recovered promptly, however, and about two years since gave birth to a fine boy, at the end of a full period of gestation. Her labor was natural and easy, and her convalescence was not protracted. Since that time she has enjoyed uninterrupted good health up to the event of her present miscarriage.

On the morning of the day in which this occurred, she engaged in the duties of her household affairs, as well as usual, with the single exception of a slight toothache. Her sister, living in the adjoining house, had, for some time past, been in the habit of using chloroform by inhalation, quite freely, to relieve a facial neuralgia; and happening into the house of Mrs. N.—, found her suffering, as she believed, from a similar cause, whereupon she immediately procured her bottle, and dropping a quantity upon her handkerchief, urged her to “snuff freely until she would begin to feel happy.” Leaning back in her rocking chair, she gratified her sister by full inspirations until the toothache was forgotten, and even sensibility to *severe pinches*, so much obtunded as to afford great merriment for the sympathising and provident sister. She remained in this condition nearly a half hour,

and it was even then most difficult to arouse her to a semiconscious state, in which she expressed a desire to lie down on her bed. When asked if she was comfortable, and free from pain, she answered in the affirmative. In this happy dream she rested till about four o'clock, P.M., when full consciousness returned, and on attempting to rise from her bed, vomited freely, and then was seized with pains of labor, more severe, tenfold, than she had ever suffered before. This had continued a little more than an hour when I arrived. She at once informed me that she was in labor, (a fact clearly inferred from her expulsive efforts and intense suffering,) and, as she expressed it, "much before time," being in the fifth month of gestation.

Upon examination, I found uterine effort extremely severe, and continuous, while the fœtus was just passing from a well-relaxed os uteri, and was removed without delay, exhibiting no signs of viability. The after-pains continued severely intense, in spite of anodynes, for about six hours, accompanied with considerable hæmorrhage and febrile excitement. But towards morning, of the following day, she awoke from a refreshing sleep of two hours' length, quite free from pain; and from that time has continued to convalesce without any untoward symptoms worthy of note.

Taking Dr. Snow (quoted by Ransbotham) for authority, we have *five stages* or "*degrees*" in the pathological effects produced by Chloroform, as follows:—

Firstly, there exists a kind of inebriation, which is usually agreeable when induced for curiosity. In the second degree, the mental functions are impaired, but not entirely suspended; consciousness, however, no longer continues correct, and a sort of dreamy state supervenes. "This degree may be considered analogous to delirium, and to certain states of the patient in hysteria and concussion of the brain; and it corresponds with that condition of an inebriated person, who is *not dead drunk*, but in the state described by the law as *drunk and not incapable*." It is very transitory, and if the inhalation be suspended, the patient, in a very few minutes, recovers the perfect possession of the mind. A considerable degree of anæsthesia is induced in this stage, and sometimes a high amount of mental excitement, that renders the patient difficult to manage, shows itself. In the third degree, all voluntary motion is paralysed. The fourth degree brings with it relaxation of the *voluntary* muscles, together with complete insensibility to external impressions, so that no pain is felt, even on the infliction of severe personal injuries. Yet, although reflex movements cannot be excited by touching even the most sensitive parts of the frame, still some functions of the spinal cord remain, as the sphincters continue contracted, and according to most of its advocates, *the action of the uterus in labor is not materially interfered with*. The fifth degree of narcotism is *the commencement of dying*."

From these, Ramsbotham gives us the following synopsis of physiological phenomena exhibited in these effects:—

At *first* the *sensor* and *motor ganglia* are brought under its influence. The function of the cerebrum is next arrested, and *coma* supervenes, "a total abolition of consciousness, reducing life to a series of

automatic movements." Then the *medulla oblongata* and the *spinal centres* become involved; and lastly, the *ganglionic system*, when the action of the heart is arrested, and life can no longer be supported.

This account of the various symptoms presented, and the order of their arrangement, may be correct as a "*general rule*," but a margin must be left for the exceptions growing out of the great diversity of constitutions, rendered peculiar by age, sex, temperament, diseased condition, etc., and, therefore, furnishing a corresponding variety in the degree of susceptibility to the influence of that agent. But let us apply our knowledge of its effects, so far as it goes, in the case before us. We find that the description (given by the sister of Mrs. N——,) of the effect, corresponds accurately with that of Dr. Snow's *second degree*, including, also, the abolition of sensibility described in his *fourth degree*. There can be no doubt that the patient was thoroughly under its influence, for she affirms that she has no recollection of getting from her chair to the bed, a distance of about ten feet. She can only recall the circumstances of inhaling the vapor.

The *rationale* proposed, with regard to the physiological action of chloroform, applied to this case, would be, that the first effect was *stimulant*, exciting the *sensor* and *motor ganglia*. Secondly, the function of the cerebrum was arrested, and partial *coma* supervened. Thirdly, the *medulla oblongata* and the *spinal centres* became involved, producing a *sedative* effect, relaxing the voluntary muscles, and, also, the *os uteri*. The stimulant effect first passed off, leaving the patient relaxed, or under the *sedative* influence. And her return to consciousness brought with it *re-action*, which ended when labor was completed. Now, *caution*, with regard to our conclusions, suggests the following enquiry, *viz.*:—Would as profound inebriation from the effects of spirituous liquors, in the *same constitution*, have produced like effects?—Would their sedative effect relax the voluntary muscles, and the *os uteri*, in a constitution that had once aborted? If so, then we can with reason suppose that re-action might be sufficient to introduce labor by exciting contractions of the uterus.

Where, then, in the history of this case, can Dr. Simpson, or any other advocate for the use of the anæsthetic effects of Chloroform in labor, point to its "*specific energy*" expended upon the contractile fibre of the uterus?

May we not as reasonably explain the phenomena produced without ascribing to it this peculiar property?

If we should jump at conclusions in our research for the *cause*, we should probably find many who would endorse the unqualified assumption that the *direct exciting cause* was chloroform. But such "*circumstantial evidence*," though apparently conclusive, ought not to be regarded as sufficient basis for even an assumed verity, respecting the physiological effect of that vapor.

Let us be content, therefore, for the present, with the simple record of the facts, and give them no more weight of evidence than that to which they are justly entitled, ever remembering that we are dealing with the *truths of Medical Science*.—*Peninsular Jour. Med.*

*Singular case of Vicarious Menstruation.*—By J. BORING, M.D., Prof. of Obstetrics, etc., in the Atlanta Medical College, Ga.—The case alluded to, is that of a negro woman, belonging to Mrs. —, about thirty-five years of age, of apparently good constitution, and, with the exception about to be mentioned, general good health.

She began menstruating at the age of fifteen, and continued regular in this respect until about three years since. Eight years ago, when about twenty-seven years of age, she was attacked with violent pain in the foot, which was succeeded by an abscess, which was lanced, but did not heal. Ulceration succeeded, which continued to move upwards until the leg was involved and became the seat of its permanent location. About three years since, the catamenial discharge began manifestly to decline, and so continued until it ceased altogether, when she was seized with severe shooting pains, passing from the sacro lumbar, to the uterine region, and to the ovaries. At the approach of her next menstrual period, she noticed a slow oozing of blood from the ulcer on the leg, (I give her own account of the matter,) which continued about the usual time of that discharge and ceased. At subsequent periods, the same discharge sometimes occurred, while at others, instead, small sacks of blood were formed contiguous to the ulcer, which were obliged to be opened and the blood discharged, before relief could be obtained.

In June last, the ulceration of the leg had become so extensive and threatening, as to require, in the judgment of Dr. —, (whose patient she then was,) amputation.

Since the operation, the ulcer being removed, there has been no regular monthly periodic discharge of blood, but, at each monthly period, sacks, such as were above described, form around the stump of the amputated limb, and require to be lanced for the relief of the patient. I have seen these sacks, and in fact opened them, and can entertain no doubt as to their true nature. So uniform are these singular occurrences in their periodic character, as to have induced this woman to keep a lancet for the purpose, and thus *surgically* to perform the work of menstruation. It should be observed that she continues without any vaginal discharge, and that the determination of blood to the stump of the amputated limb, together with the formation of these sacks of blood, occur periodically, and observe *strictly* the menstrual periods, as to the time of their recurrence and duration.—*Atlanta Med. and Surgical Jour.*

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*Case of Abscess of the Left Ovary in the Non-Puerperal State.* By F. M. McCABE, M.D., of Louisville, Ky.—Bridget Griffin, aged thirty-three, a native of Ireland, was admitted to Louisville Marine Hospital, Aug. 2, 1855, for supposed prolapsus uteri, of which affection her physician had assured her she was the subject. Her menstrual functions had been uniformly healthy up to the present attack. Within twelve months had had intermittent fever irregularly, from which, however, she had been entirely free for two months prior to entry. She was attacked, on July 22nd, by chilly sensations, severe lumbar and



hypogastric pains, a sensation of weight deeply seated in the pelvis upon attempting to walk, with much vesical irritation, as a consequence of protracted exposure to toil while washing clothes, being then on the eve of menstruation, which, indeed, ensued on the following day, but stopped abruptly after lasting less than twenty-four hours, (her menstrual period usually occupying three days and nights.) On the morning of the 23rd she had a severe chill, followed by high febrile re-action, chills continued to recur at about the same hour for six successive days, but growing with each paroxysm progressively lighter, until after the sixth return, when they spontaneously ceased. At this time, the lumbar and hypogastric pains were much lessened in intensity. On the tenth day from the attack, the notice of the nurse was suddenly called to a profuse purulent discharge from the vagina, which amounted, perhaps, to a quart. The patient was immediately placed upon a vessel, and states that there was a further discharge of about a pint of bloody pus. A continuous, but small, discharge existed up to the time of her entry into the Hospital.

*Condition at the time of Admission.*—August 3rd.—No purulent discharge from vagina. On examination, with the speculum, a small perforation of the left vaginal wall is seen; uterus *in situ*, and of healthy aspect. The finger, introduced into the vagina, encounters an indurated swelling encroaching upon the cul de sac of this canal; an indurated swelling surrounding the aperture. Patient complains of no pain. Pressure over the abdomen is accompanied by tenderness, which is most marked over the left iliac region, where she expressed herself as having suffered most from pain in the beginning of her attack. The indications for medication not being very urgent, I contented myself by directing fomentations to be applied to the abdomen.

August 5th.—Patient has a chill; and, on inquiry, found that she had one yesterday. August 6th.—Ordered quinia grs. ij. every two hours till grs. xxv. were taken, with but the effect of retarding the paroxysm several hours. August 7th.—Quinia given to cinchonism. August 8th.—Cinchonism; continued to escape chill till 13th, when it became necessary to resume the quinine, to which was now added FOWLER'S solution. The general evidences of anemia being present, the patient was also directed to use some of the ferruginous preparations. August 14th.—Specular examination shows the point of ulceration to be granulating healthily. August 20th.—Menstruous flow reëstablished, perfectly normal in character. August 25th.—Patient left the Hospital cured.—*Western Jour. Med. and Surg.*

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*Cases of Rupture of the Appendix Vermiformis.* By F. M. ROBERTSON, M.D., Charleston, S. C.—The subject of the case was a boy aged twenty-one years, the offspring of mulatto parents, who had enjoyed uninterrupted health from childhood. He complained on the 29th of August of a slight pain over the umbilical region, which he described as a griping sensation, such as frequently arises from wind in the intestines. A simple anodyne relieved him. There was a slight return of the griping sensation at bed-time. He repeated the anodyne himself, and rested well during the night.

On Thursday, the 30th, he arose as usual and commenced attending to his horses. On crossing the yard, I found him lying on a box in the stable, and upon inquiry he informed me that since getting up he had experienced severe pain around and below the umbilicus. I directed him to go to his room immediately, and just as he was passing from the stable to the stairway leading to his room, he was seized with the most violent agony resembling a spasmodic pain, just below the umbilicus, extending low down towards the pubis. The agony was so intense that it caused him to flex his thighs upon the pelvis, and draw the body forcibly forward. He was carried to his room immediately, and I gave him twenty grains of calomel with three grains of opium, and applied a mustard poultice to the abdomen. This was about half-past seven o'clock, A.M.

When I returned at 11 o'clock, I found him still in extreme agony, with occasional hiccough, and eructating dark-green fluid. I administered  $\frac{1}{2}$  gr. morphine, and gave an enema of strong salt and water. The enema passed off immediately without any fecal matter. I permitted him to inhale chloroform until relaxation and sleep were produced; the chloroform was repeated in the course of two hours. In all he had about four hours comfortable sleep.

7 P.M.—Not so much pain, but extreme tenderness on pressure just above and below the umbilicus. Applied a blister 7 by 8 inches over the seat of pain, and gave a powder every two hours, composed of 5 grs. calomel, 1 gr. opium, and  $\frac{1}{3}$  gr. ipecac. During the paroxysms of intense pain, the pulse became quick and small, but resumed a more natural character when the pain subsided. Eructated during the night, the same dark, green fluid; with this exception, he rested comfortably; no action from the bowels; no vomiting; no nausea.

Friday, 31st, 6 A.M.—Pulse quick, frequent, and not full. Blister drawing well. Continues to eructate large quantities of dark, dirty, green fluid—no stercoraceous odor. Tenderness on pressure over the umbilical region. Respiration rather labored; the shoulders are elevated in inspiration with more force than under ordinary circumstances. No swelling of the abdomen; no tympanites. Made an attempt to give a cathartic mixture, but it was rejected immediately—gave another enema.

11 A.M.—Removed the blister which had drawn well. Enema had not come away; removed a portion of the cuticle from the blistered surface and applied a dozen leeches; eructation of dark, dirty, green fluid still continues. Pulse quick; perspires freely; skin of the normal temperature; leeches draw well; applied a large emollient poultice over the blistered surface. Although respiration is labored, still the abdominal muscles play freely to a considerable extent.

1 $\frac{1}{2}$  P.M.—Another enema of salt and water with the addition of castor oil. It came away in fifteen minutes with some flatus and a small portion of fecal matter, not, however, of such a character as to lead to the impression that it came from the small intestines. Some increase of pain after the action of the enema, which operated again at 2 o'clock, the discharge presenting the same characters as the first.

4 P.M.—Eructations have continued—the kind brought up of the same character; no return of pain; pulse 155 per minute, and feeble. R creosote gtt. 20, morphine sulphas gr.  $\frac{1}{4}$  muc. gum arabic  $\bar{z}$  ii. Mix. —A teaspoonful every half hour; and a wineglass of champagne every half-hour.

8 $\frac{1}{2}$  P.M.—Skin commences to be cold and clammy—pulse still more frequent, small and feeble; restless; no pain; respiration more labored—all the indications of a speedy collapse. Eructations not so frequent, but a larger quantity of fluid is brought up each time. Continue creosote—substitute brandy and water for the champagne.

Saturday, Sept. 1, 2 A.M.—Continues to sink; fluid eructated emits a stercoraceous odor; dejection similar in character to the fluid eructated; return of pain; intellect perfectly clear. He expired at half-past 5 o'clock A.M. Post mortem about four hours after death. On opening the abdominal cavity, extensive traces of peritoneal inflammation were observed in every direction. The cavity contained a large quantity of sero-purulent effusion; there were adhesions between the omentum and intestines, and between the convolutions of the intestines themselves, and other viscera. Extensive deposits of plastic lymph were found at numerous points, and some marks of tuberculosis were observed in the liver and mesentery, evidently of old date.

On examining the region of the cœcum, it was found that an abscess, which implicated the appendix vermiformis, had given way, and discharged its contents into the peritoneal cavity. The appendix had become so thin at its juncture with the abscess, that it was completely ruptured across at that point. A substance larger than a pea was found in the abscess. It was soft—that is about the consistence of old cheese—and of a yellow, gray color. Its precise nature could not be ascertained; it was evidently some portion of the undigested or undigestible aliment which had found its way to the bottom of the appendix, where the consequent irritation produced an adhesion between the walls of the abdomen and the appendix. The extremity of the appendix was incorporated with the condensed and thickened cellular tissue, which formed the walls of the abscess. It had doubtless been of long standing—probably more than a year—and the gradual thinning of the parietes produced a rupture, which led to a rapid and fatal peritonitis. The cavity of the pelvis was completely lined with a false membrane, which could be stripped off like the oiled paper from adhesive plaster. From the time the eructations commenced, to that of his decease, he must have brought up, at the smallest calculation, two gallons of the dark, dirty, green fluid alluded to above.

I would merely remark that this is the third case of this singular and fatal disease that has occurred in my practice, which covers a period of twenty-six years. The first case occurred in 1847, a report of which may be found in the 4th volume of your Journal, at page 180. The report states, "On opening the abdomen and exposing the viscera, we found the omentum covered with pus. The small intestines with the omentum were then turned back from their position, when we discovered that a cœcal abscess had burst into the abdominal cavity. Several

adhesions were found between the liver and walls of the abdomen. The pus from the abscess was extensively diffused throughout the abdominal cavity. There existed marks of extensive peritoneal inflammation. The appendix vermiformis, the coats of which were entirely destroyed by the ulceration at one point, appeared to have been filled with a substance resembling old cheese, a portion of which had escaped with the pus into the abdominal cavity. There were, also, two openings in the cœcum, nearly large enough to admit the end of the little finger." The second case occurred in 1849, in a young gentleman from the North. His symptoms were severe and rapidly fatal. On examination, (post mortem,) an abscess was discovered in the cœcum, which had become adherent to the posterior part of the abdominal walls, a large amount of pus escaped into the peritoneal cavity, producing extensive peritonitis, which was speedily fatal.

In this case, the appendix vermiformis was not implicated in the abscess, but it was nearly obliterated, and presented nothing more than a mass of condensed tissue, without any opening into the cœcum. In the case which is the subject of the present report, the cœcum appeared to be perfectly healthy, and the abscess was confined entirely to the lower portion of the appendix, at the point of its adhesion to the posterior part of the abdominal wall.—*Charleston Med. Jour.*

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*Ununited Fractured Rib—successfully treated by an Operation.*  
By Prof. PAUL F. EVE, M.D., of Nashville, Tennessee.—On the 11th of last November, 1854, I operated before the Class of our University upon Mr. Wm. Briant, of Bledsoe county, East Tennessee, who some two years before had received an injury by a fall, having at the time a heavy burden on his shoulder. The result was a fracture of one or more ribs; and he came to our college clinic on account of a continual discharge of pus from sinuses situated over the eighth rib of the left side, a little anterior to its middle.

The patient with this exception enjoyed good health, was a stout, active, laborious man, and possessed an excellent constitution. A probe introduced into the sinuses having detected denuded bone, it was proposed to convert the issues into one by an incision which would also expose the true condition of the diseased parts. No looser portion was found, but the fractured extremities of the ribs were enveloped in an abscess, and removed with stout forceps; the wound was dressed, leaving a tent made of patent-lint at the bottom, with adhesive plasters.

The broken ends of the ribs were twisted off with strong forceps, instead of employing cutting instruments for this purpose.

A few days after the operation, the patient returned home with injunctions to wear the tent deep in the wound, so that it might act as a seton for several months between the broken ends of the bone.

The 10th of June, 1855, seven months after he left Nashville, Mr. B. wrote me, that "the side you operated upon last November is sound and well, and I enjoy fine health, and can work and attend to my business as heretofore." Two months later, in August last, my

colleague, Prof. Watson, examined the case, found it as represented by the patient himself, and pronounced it perfectly healed.

It is probable a seton between the fractured ends of the rib might have produced the same happy result.—*Nashville Jour. Med. and Surg.*

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*Case of Simultaneous Ligation of the Common and Internal Carotid Arteries.* By GURDON BUCK, M.D., Surgeon to the New York Hospital.—Wm. McGraw, a laboring man, aged 30 years, and a native of Ireland, was admitted July 5, 1848, into the Hospital with a deep wound in the right parotid region, that happened the day before, from the explosion of a glass bottle containing gunpowder. The patient was holding the bottle at the time of the accident. The hæmorrhage, which was profuse, was arrested with much difficulty by sewing up tightly the external wound, after first extracting a fragment of glass one inch in length. The upper part of the neck and cheek, surrounding the wound, were a good deal swollen and tense. The wound itself was scarcely half an inch in length, and was situated half an inch anterior to the lobe of the ear. After enlarging its orifice, the finger passed directly inwards behind the ramus of the jaw, a depth of nearly two inches, and could be moved about with some freedom at the bottom of the wound. No hæmorrhage followed the exploration. The patient's mouth was drawn towards the left side, and much distorted. Deglutition was difficult, and his voice, hitherto distinct, was thick and not easily understood. Patient was directed to keep in bed, and to have cold water dressings applied to the part.

July 8.—On careful examination, the swelling, which had increased, presented a distinct pulsation at its central and most prominent part, showing conclusively the development of a false aneurism.

9th, at 4, A.M.—A very profuse hæmorrhage occurred, which could not be controlled by pressure over the wound, but was finally arrested by very firm compression applied to the common carotid. After being kept up by the Resident Surgeon and his assistants for nearly two hours, compression with sponge in the wound was substituted, and applied in the following manner. Three pieces of compressed sponge were successively passed down into the cavity of the wound, and a fourth placed over the orifice. Two graduated compresses were applied over the sponges, and the whole maintained in place by the finger of an assistant. The patient was thus relieved of the painful pressure over the neck, and time was allowed to convene the Surgeons for an operation.

*Operation at 9, A.M.*—For reasons that will be stated hereafter, it was decided to apply a ligature to the internal as well as the common carotid artery. The procedure was as follows:

An incision three inches in length was made from a point a little above the ramus of the os hyoides downwards over the edge of the sterno-mastoid muscle. This muscle being laid bare, its anterior edge was raised from its sheath and drawn outwards. A transverse venous branch that crossed the carotid at the point where it was to be tied,

was secured by two fine ligatures and cut between them. The sheath of the common carotid was next opened; and a ligature passed beneath the artery, but not tied. The dissection was now carefully prosecuted upwards to the bifurcation, and the internal carotid exposed to the extent of three-fourths of an inch from its origin. In the first attempt to pass the armed needle under the artery, the patient became suddenly convulsed, his breathing stertorous, and his pulse feeble, evidently from disturbance of the pneumo-gastric nerve. Further proceedings were suspended, to allow these alarming symptoms to subside, which required five or six minutes. A second attempt to pass the ligature was then successful without any accident. Before tying the knot, a careful examination was made to ascertain that nothing was included in the ligature but the artery. The effect of cutting off the current of blood from the brain was also tested, by tightening the thread over the finger placed in the noose with the artery. The ligature was then tied in the usual manner, and that around the common carotid was also secured an inch below its bifurcation and above the omohyoid muscle. The external wound was closed with sutures, and between them strips of muslin wet with collodion were applied. Ice-water dressings were directed.

July 11th.—Patient is progressing favorably; his pulse is one hundred, full and strong. The swelling of the parotid region has diminished. Pus mixed with blood is freely secreted from the original wound. 14th.—The swelling has still further subsided, and the supuration from the original wound very much diminished. 20th.—The ligature has come away from the internal carotid. No pulsation is perceptible either in the facial or temporal arteries of the right side. 21st.—The ligature came away from the common carotid.

Aug. 5th.—Patient has complained, for the last four or five days, of severe pain over the right side of the head and face, anterior to the ear, and has had frequent slight hæmorrhage from both nostrils. The wounds have nearly healed. No excitement of pulse. Ordered cups and scarifications to the temples. 12th.—Since the last report, blisters have been applied behind both ears, and with decided relief of the pain in the head. The epistaxis has recurred but once, and only in a slight degree. His bowels are constipated. 14th.—The pain in the head has returned this morning with great severity. Constipation still persists, in spite of active purgatives. Ordered a blister to be established on the forehead with *aq. ammon. fort.*; and croton oil, *gutt. ij.* to be taken, and followed by enema, if necessary. 15th.—The head is much relieved. The bowels have been freely evacuated. The blister to be continued behind the ear. 26th.—The patient's general condition is improving; his bowels, however, still continue obstinately constipated, and require the most active purgatives to move them. The wounds have not yet entirely healed; that in the parotid region is converted into a fistula, from which saliva flows freely, especially during the act of mastication. The mouth, when opened, is still drawn to the left side; the right half of the tongue has become atrophied and flabby, presenting longitudinal wrinkles on its surface. Its appearance

strangely contrasts with that of the left half, which retains its natural plump and healthy condition.

Sept. 21st.—Every thing continued to progress favorably till this morning, when patient became feverish, and sick at his stomach. During an effort to vomit, he was suddenly startled by a gush of arterial blood from the wound in the neck, amounting to about two ounces. Before assistance could reach him, the hæmorrhage ceased spontaneously.

Oct. 18th.—No return of hæmorrhage. The salivary fistula noticed above has closed under the influence of pressure applied with the end of the finger to the orifice of the fistula during meals. Patient was discharged cured this day.

Several months afterwards, when he presented himself for examination, the right half of the tongue was still found atrophied and shriveled, though the function of taste remained unimpaired. The mouth was drawn to the left side, distorting the face. His articulation continued thick and indistinct.—*N. Y. Med. Times.*

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*Case of Remarkable Extra-Uterine Conception.* By DR. ARMSBY.—The specimen from which the following illustrations were taken, was obtained at a post mortem examination, held by Dr. Parkhurst, in the presence of about twenty persons, upon the body of Mrs. Amos Eddy, aged 77, of Frankfort, Herkimer co., N.Y. Mrs. Eddy's maiden name was Rebecca Smith. She was born in Frederickstown, Columbia co., N. Y., in the year 1775. Her parents were born in England. Her mother, Sarah Smith, gave birth to twenty-four children, of whom four pair were twins; Rebecca being the twelfth child. Mrs. Eddy was married in New Lebanon, Columbia co., N. Y., in 1795, at the age of twenty, and removed with her husband, Amos Eddy, to Frankfort, Herkimer co., N. Y., where they both lived and died; he at the age of seventy, and she at the age of seventy-seven; she became pregnant in 1802, seven years after her marriage, and died in 1852, carrying the foetus fifty years.

No unusual symptoms attended her pregnancy; her catamenia ceased, quickening was felt at the usual time, and the motions of the child increased were observed during the usual period of pregnancy. At the expiration of eight and a half months, she had severe labor pains, following a sudden fright from the falling of a vessel into the fire while she was engaged in cooking. Her physician, Dr. Farewell, of Litchfield, was called; the labor pains continued for several hours with regularity and force, but at length subsided; and she remained comfortable for two or three weeks. Her health then began to decline, and the full period of pregnancy having passed by, her friends became extremely anxious, and availed themselves of the advice of Drs. Guiteau, Hull, Coventry, White, and others. For a considerable time she was confined to her bed, and after a year and a half of extreme suffering, her health began to improve, and was finally restored; during the remainder of her life she had general good health, but suffered occasionally from severe attacks of pain in the abdomen, which re-

sembled labor pains. After her health was restored, her catamenia returned and continued until the age of forty-five. She traveled much about the country, and consulted various medical men, among others the late Prof. Willoughby, of Fairfield Medical College; her health continued remarkably good up to the time of her death, and at the age of seventy-six she was accustomed to walk five miles from her residence to the village and back again.

The specimen with its covering cyst weighed 8 pounds at the time of its removal. The external surface of the envelope was smooth and white, composed of concentric layers of fibro-cartilage, varying at different points, from a line or two to three-fourths of an inch in thickness. It had no connections with the abdominal viscera or walls, but was slightly attached to the fallopian tubes and omentum. The external surface of the fœtus, was encrusted with earthy substance, of sufficient thickness to preserve its form when dried. The interior seems to be a soft substance, resembling adipocire.—*Trans. Med. Soc. State N. Y.*

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*On the Use of Elm Tents for the Dilatation of the Cervix Uteri.*  
By H. R. STORER, M.D., Physician to the Boston Lying-in Hospital.—The expansibility, to a certain extent, of slippery elm, is well known. This extent is indeed inferior to that of sponge; but if the bark be of good quality, upon which much depends, it will generally be found sufficient for every practical purpose.

I have stated my conviction that the danger of sponge lies, not merely in the extent to which it will expand, but also in the celerity with which that force is exerted. This also exists to a less degree in the elm, a tent of which will not be found increased to its full size within three or four hours after its introduction, as is often the case with sponge; but in very many instances this rapidity is not necessary. In most cases, indeed, I consider it unsafe—unsafe at any rate for the os to be suddenly dilated, from a comparatively closed state to its full patency in so short a time. The tissues are generally by no means prepared for so sudden a change; and when effected, it can hardly be compared to what takes place during the first stage of natural labor: in the case under consideration, the stimulus being entirely from below, entirely confined in its action to the cavity of the cervix and its extremities, entirely unconnected with anything at all resembling the end of gestation—which indeed could only be imitated by the descent of so large a polypus, fibrous or otherwise, as to render the use of sponge tents wholly out of the question. In most cases requiring a tent, great haste is not necessary; in some cases it is decidedly contra-indicated; in many, other things being equal, elm bark has the advantage over sponge.

Furthermore, I need not dwell upon the fact that the elm tent, on its withdrawal from the vagina, though it may have become somewhat impregnated with a sufficiently disgusting odor during its impaction among the several secretions, will yet be found not to have itself tainted.



ed them. In this respect, also, I have noticed a marked superiority over sponge.

But to such apparently negative excellence, there seems to be added other, sufficiently positive in its character. I allude to the abundant mucilage poured forth from the cells of the elm, and which, by affording a perfect sheath to all irritated or diseased surfaces, must lessen the danger so peculiar to sponge; while on the other hand it supplies, to a certain extent, any deficiency that may, as often, occur in the normal secretion of the parts, necessary in furtherance of the process of expansion.

I might go on to point out other, though less important advantages, but do not consider it necessary. I do not desire to claim for these tents that they should always take precedence, or should indeed become generally substituted for sponge; such claim would be unjust to both. Nor, on the other hand, do I expect that all who may be induced to make trial of them, will give them their unqualified approbation. Much will depend upon the manner in which they are prepared, and the quality of the material itself. In size, shape, and mode of introduction, they should closely resemble the sponge tent, with which, as I have already said, I shall take for granted that my reader is familiar. Upon these three particulars, of course, success or failure will in a great measure depend.—*Boston Jour.*

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*Statistics of Mortality in Norfolk and Portsmouth, during the prevailing Epidemic.*—It has been estimated that the population of Norfolk, which is usually about 14,000, has been reduced by flight to not more than 8,000 persons, whilst in Portsmouth, with an average of 8,000 inhabitants, it is supposed that probably 4,000 have remained. The number of deaths in Norfolk to the 20th of September have been not far from 1,400, whilst in Portsmouth it is estimated that 700 have died from the disease. Thus, in 12,000 persons, we find a loss of 2,100 from the ravages of this awful scourge. Yet, even with this fearful exhibit, the disease is not satisfied, for daily victims are being added to the mournful list.

For the sake of comparison, let us turn to the admirable tables of Dr. La Roche, in his late treatise on yellow fever, and we see that even this malignant visitation has been exceeded in the ratio of deaths to population. Thus,

In Palma, 1821—The remaining population being just that we have allowed to Norfolk and Portsmouth, i. e., 12,000, the number of deaths were 5,341.

In Gibraltar, 1804—With a population of only 10,000, the mortality was more than *one-half*, the number of deaths being 5,946, whilst in the epidemic of 1821, at Barcelona, of 830 patients entered at the General Hospital, *all died* but 81!

The following are the names of the forty physicians who fell victims:—Sylvester, Constable, Halson, Sylvester, Jr., Higgins, Briggs, Upshur, Tunstall, Selden, Burns, Trugien, Parker, Lovett, Walters,

Thompson, Fliess, Booth, Howe, Bache, Dillard, Gooch, Howle, Gelbardt, Blow, Jackson, DeBerane, Obermuller, De Capry, Hunter, Schell, Craycroft, Miersen, Handy, Cole, Morse, Rizer, Smith, Marshall, Craven, Berry.—*Virginia Med. and Surg. Journal*.

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*Opiate Inhalations in Neuralgic Pains.*—Take two grains each of powdered opium and sugar, also gum benzoin if desired, which sprinkle upon a hot shovel held under the patient's nose. It will afford prompt relief in coryza, with pain in the frontal sinus, as also in the various neuralgic pains of the frontal, temporal, and zygomatic regions, whether of an idiopathic or symptomatic nature.—*St. Louis Med. Jour.*

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#### EDITORIAL AND MISCELLANEA.

*Medical Journals—Should the Young Practitioner Read them?*—A well-regulated medical periodical is the medium of communication of the experience, thoughts, and reflections of medical men to one another, and of the important discoveries in the different departments of medicine. They supply on a large scale, in a certain degree, the place of societies and associations for improvement, by affording the members of a profession, widely-scattered, a medium for the rapid interchange of views, and for the discussion of principles and methods of practice. While activity in the cultivation of the various branches of medicine is necessary to their healthy existence, they reciprocally tend to stimulate the growth and development of these branches, by the wide diffusion of recent discoveries among earnest laborers in these fields of research.

A serial publication thus becomes, not only a record of the progress of medical science, but also a great repository of facts, valuable for future study. It is the inexhaustible store-house, from which the compilers of practical treatises obtain the materials for their works.

The high-toned liberal and independent medical periodical is essential, also, to the ethics of the profession. It creates and maintains a sentiment adverse to the petty jealousies and envious strifes, which too often arise between individual members, and totally subversive of all the low arts by which the charlatan imposes upon public credulity.

But the laborious country practitioner can best appreciate the well-regulated periodical. Isolated from all professional associations, he is deprived of the satisfaction of communicating his doubts and perplexities to others, and from mutual discussion deriving light and assistance. His position affords him but limited advantages and time for study and careful investigation; while, from the instructive field of pathology he is entirely debarred. To this large and most respectable class, the medical press is a desideratum. It brings them in close communication with their brethren, scattered over the civilized world, and makes them participants of whatever learning, research, or experience can afford. It spreads before them, for contemplation, the precepts of the public teachers of their profession the discoveries of

the microscopist and pathologist, and the experience of the hospital physician and surgeon.

We are led to these remarks by the annually repeated advice of a prominent medical teacher, to his graduating class, never to read medical periodicals. "If you have leisure," he is accustomed to say, with characteristic emphasis, "and must read, select novels instead of medical journals, for your instruction."

We can best prove the injustice of this slur upon medical journals, and show its ill effects upon the young practitioner who has the simplicity to follow it, by making an extract from a letter just received from a young physician, located in the interior of an adjoining State. He says, "I settled in this place about two years since, under the shadow of an old physician, who had long monopolized the practice of the town. During the first year and a half I had nothing to do; but, undaunted, applied myself diligently to a careful review of my studies, and the perusal of the best medical periodicals. The opportunity finally offered for me to apply my knowledge to good account. I was called to visit a young man with a dislocated femur, which the old physician, my rival, had in vain attempted to reduce with pullies, after torturing the patient several hours, to the horror of the bystanders. Before visiting the patient, I carefully reviewed the admirable, and to me invaluable paper of Dr. Markoe, in the *N. Y. Journal of Medicine*, on reducing the dislocated femur by manipulation. I found the patient and friends alarmed, and fearful of having instruments again used. I placed him in the proper position for manipulation, and, in the presence of a multitude of bystanders, began the required movements of the limb. Without causing the slightest pain, I carried it through the proper circle, and was about to bring it down, when the head slipped gently into its socket, to the great relief of the patient, and the satisfaction of the friends. I need hardly add, that within one month of that operation, I had all the business I could do."

We could exhibit many other facts of a similar nature, from our correspondence, illustrating the importance of medical journals to the practitioner, but it would be a supererogatory task. Their value is indisputable to every lover of his profession, and it is to this class we address ourselves.

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*Dislocations of Femur Reduced by Manipulation in London Hospitals.*—The London Medical periodicals have recently contained reports of cases of reduction of dislocations of the femur, by manipulation. The first cases, two in number, occurred in Guy's Hospital, (*Lancet*, July 7,) under the care of Mr. Cock; one was of five weeks standing, the other more recent; both had been subjected to the pullies. The reduction was easily effected in both cases by manipulation. The reporter adds, "from a careful study of the skeleton, Mr. Cock finds the secret to be, to handle the femur as if it were the humerus; then flexing it on the pelvis, abduct strongly, thus lifting the head of the bone with the accessory band of the ilio-femoral ligament, over the

acetabulum, while you also rotate the lower condyle or limb, in your hand outwards."

In the *Lancet* for Aug. 4, we find another report from Guy's Hospital, of seven cases under the care Mr. Birkett, four of which were reduced by manual extension, and three by flexing the thigh upon the pelvis, abducting and rotating it. Of the three latter, two were in the foramen ovale and one in the ischiatic notch. The writer makes the following introductory remarks:—"Dr. Reid, of New York, also gives an American plan of reduction in cases of dislocation of the head of the thigh-bone; and Dr. Markoe, one of the attending surgeons of the chief N. Y. Hospital, has recently furnished nine cases of his own, and three others treated by New York surgeons, twelve cases in all; of which three were dislocations into the foramen ovale, eight, (five of his own and three of others,) on the dorsum ilii, and one into the ischiatic notch. We do not hear of the luxation on the horizontal branch of the os pubis, or the still more rare accident behind the tuberosity of the ischium. The method of the American surgeons is much more violent, and not more effective, than that adopted at Guy's and at some other London hospitals, the displacement being remedied, according to the former, "by flexing the leg on the thigh, carrying the thigh over the sound one, upwards over the pelvis, as high as the umbilicus, and then abducting and rotating it." A peculiar "rocking motion" is much dwelt on, however, by our transatlantic brethren, as necessary to induce the head of the bone to regain or creep back to its normal position,—a plan spoken of by Colombat—an old modification of the present methods by manipulation, also now highly prized by some surgeons; but we doubt if, under chloroform, the patient could be so well adapted to it as in the plan of Mr. Cock, and Mr. Birkett at Guy's, which seems to answer all purposes."

If the writer of this report will carefully examine the valuable paper of Dr. Reid, in the July, 1855, number of the *New York Jour. of Med.*, he will learn that the "American plan," or the method of Dr. Reid, is *entirely destitute* of violence. Dr. R. even deprecates the employment of chloroform, as "the pain produced by manipulation, is too trifling to require an anæsthetic of any kind." His third proposition if followed, effectually prevents all violence:—"The general rule for reducing dislocations should be, that the limb or bone, should be carried, flexed, or drawn, in that direction which will relax the extended muscles."

Dr. Markoe's experience confirms this view; he says "we never have accomplished anything by proceeding in a direction where great force was required to continue the movement, but have always succeeded by finding a direction in which the mere continuance of the movement without force, has brought the head into the proper position."

In the "American plan" again, the "rocking motion" has no existence. Dr. Reid speaks of "making gentle oscillations of the thigh," and condemns the rocking motion mentioned by Dr. Markoe.

In the present number of this journal, we supply the deficiency in

the history of this operation alluded to by our London contemporary. The two cases of dislocation upon the pubes, reported in our original department, by DR. E. J. FOUNTAIN, of Iowa, are extremely interesting, and their successful treatment by manipulation alone, reflects great credit upon this ingenious and accomplished surgeon. The warmth of DR. FOUNTAIN's praise of this great improvement in practical surgery, and his acknowledgment of Dr. Reid's merit are appropriate. We can well imagine the degree of estimation which the isolated practitioner must place upon a method of treatment of one of the most formidable accidents in surgery, which allows him to dispense with pulleys, cords, bandages, anæsthetics, a half-score of assistants and enables him, with facile hand to accomplish in twenty seconds, without pain, what before, with all these trappings, required hours, and even then often failed.

We deem it our duty to make this allusion to the negligence of foreign writers to accord to American surgery its proper due. It matters nothing how many times luxations of the femur have been accidentally or deliberately replaced by manipulation; to DR. REID belongs the unqualified merit of *first* establishing, by actual demonstration of its principles, the proper method of procedure. However much Mr. Cock, of Guy's Hospital, may have studied the skeleton for "the secret," he has not discovered a plan of reducing dislocations of the femur superior to the American. The first intimation of this method of operating, though not acknowledged, we doubt not was derived by the London surgeons, from the paper of DR. MARKOE, in the *New York Jour. of Med.*, for January 1855, which was soon after republished in England.

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*College of Physicians and Surgeons. Resignation of PROFESSOR STEVENS, as President of the College.*—At a meeting of the Trustees of the College of Physicians and Surgeons in the City of New York, held at the College on the 27th November, 1855, the following resolutions were unanimously adopted:—

*Resolved*, That this Board deeply regret the Resignation of Dr. Stevens as their presiding officer.

*Resolved*, That the interest he has uniformly shown in the welfare of the College, his incessant vigilance in watching over its affairs, and the earnest zeal with which he has either originated, or forwarded every improvement in its organization, have secured to him the respect and good-will of this Board, over whom he has so long presided.

*Resolved*, That, cherishing these sentiments toward their late President, the Board is unwilling to part with him, without expressing their continued interest in his welfare, and the hope that he may realize in retiring from public life, the peace and happiness, which he has so richly earned in a long life of professional eminence, and active exertion for the good of his profession and the public at large.

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*Coroners' Inquests.*—At the last Annual Meeting of the National Medical Association, held in Philadelphia, the undersigned was ap-

pointed Chairman of a Committee to report what "measures should be adopted to remedy the evils existing in the present methods of holding coroners' inquests."

I think it very desirable, nay necessary, to obtain data, such as the laws regulating inquests, forms of procedure, fees paid to medical experts, the qualifications and tenure, and other matter appertaining to the office of coroner.

Any suggestion, cases of flagrant abuses, documents, reports, etc., will be most thankfully received and duly acknowledged.

ALEX. J. SEMMES, M.D.,

WASHINGTON, D. C. Chairman of Committee on Coroners' Inquests.

*The Stethoscope and Virginia Medical and Surgical Journal Combined.*—By the last issues of these respective Journals, we learn that a combination of the two Journals will take place with the commencement of the present year, under the name of the *Virginia Medical Journal*. The editorial corps of this new Journal consists of the editors of the late *Virginia Medical and Surgical Journal*. Under the new arrangements, increased efficiency and usefulness must result to the profession of Virginia. We wish the new Journal all success.

*Journal of Public Health, and Sanitary Review.*—We have received the first three numbers of this interesting Journal. It is ably edited by B. W. Richardson, M.D., and published by Samuel Highly, of Fleet-street, London. We announce to our medical brethren, on this side of the Atlantic, the appearance of this Journal with feelings of no ordinary pleasure. It is established for the purpose of forwarding the great principles of sanitary reform, which now agitate the public mind of all enlightened countries, and particularly that of England. It publishes the transactions of the Epidemiological Society of London, and is worthy of a place in the library of every intelligent physician.

*Card of the Committee on Prize Essays of the American Medical Association.*—At a meeting of the American Medical Association, held in Philadelphia, May, 1855, the undersigned were appointed a committee to receive voluntary communications on medical subjects, and to award prizes in accordance with the regulations of that body.

Each communication intended to compete for a prize must be addressed to the Chairman of the Committee, at Ann Arbor, Michigan, before March 20th, 1856, and must be accompanied by a sealed packet, containing the name of the author, and marked, exteriorly, by a sentence or motto corresponding with one upon the essay, which packet will not be opened unless the essay belonging to it is successful in obtaining a prize.

Unsuccessful papers will be returned, on application after the adjournment of the meeting of the Association, in Detroit, in May next.

A. B. Palmer, M.D., (Chairman), Samuel Denton, M.D., A. R. Terry, M.D., A. Sager, M.D., S. H. Douglass, M.D., C. L. Ford, M.D., E. Andrews, M.D.

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# THE NEW-YORK JOURNAL OF MEDICINE

FOR MARCH, 1856.

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## PART FIRST.

### ORIGINAL COMMUNICATIONS.

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ART. I.—*Is Muscular Motion the Cause of the Production of Urea?* By JOHN C. DRAPER.

It is proposed to show, that the amount of urea excreted in the urine is not influenced by muscular motion, as is generally supposed by physiologists.

We shall endeavor to prove this: 1.—By direct experiments on the urine of persons in different conditions of motion and rest. 2.—By an examination of the diurnal and nocturnal variations in the amount of urea voided, which variations we believe are now for the first time recognized.

We shall offer reasons for concluding that the differences in amount of urea secreted are to be attributed to the influence of food.

*Is the Urea in Urine Due to Muscular Motion?*—The first step in the solution of such an inquiry as the above, is the choice of some reliable process by which analyses determining the amount of urea in various samples of urine, may be made.

The process employed in the following experiments consists essentially in the decomposition of the urea by nitroso-

nitric acid, and then determining the carbonic acid produced by means of hydrate of baryta.

Next, we have to settle upon some standard with which the results obtained in our experiments may be compared. The one chosen as being the most convenient, is the total quantity of urea passed in twenty-four hours, a very small amount of exercise being taken. The diet being mixed, and as nearly as possible the same in amount each day.

The analyses given in the following table fulfill these conditions, and, with the exception of the eleventh, twelfth, and thirteenth, were all obtained from the same individual. In addition to the urea, the solid residue, that is the solid material left after the evaporation of the water contained in the excretion, was also determined.

Average daily amount of motion, 3 miles.			
Analysis.	Urine.	Solid Residue.	Urea.
	In Grammes.	In Grammes.	In Grammes.
1	754·000	44·488	23·649
2	1227·000	52·768	26·030
3	1153·000	54·202	26·034
4	1042·000	60·456	31·902
5	1160·000	60·825	31·008
6	990·000	56·493	27·567
7	1737·000	66·874	31·062
8	1042·000	53·943	26·551
9	997·000	55·288	27·616
10	1079·000	54·513	23·873
11	871·000	55·598	25·271
12	775·000	51·440	27·323
13	743·000	51·023	26·816
14	974·000	52·718	24·476
15	1462·000	59·838	28·424
16	768·000	50·120	24·394
17	1595·000	62·096	29·232
18	1536·000	57·838	28·621
Total for 18 days, 19905·000		1000·521	489·849
Mean for 24 hours 1106·		55·584	27·213

If we compare the urea with the solid residue in the manner proposed by Dr. Simon, the result of these analyses is the same as of those given by Berzelius, Lehmann, and others.

1000 Parts of Solid Residue contain according to	
Berzelius .....	451 of Urea.
Lehmann .....	490 " "
Marchand .....	492 " "
Above Analyses .....	490 " "

Our standard, therefore, is as follows, in grammes.

Urine.	Solid Residue.	Urea.	1000 of S. R. contain of Urea.
1106.	55.584	27.213	490.

We may now proceed to determine : 1.—The daily quantity of urea excreted in absolute rest. 2.—That, during violent and sudden muscular action.

*The Amount in Absolute Rest.*—In order to obtain this, I analysed the urine of the patient whose history is given below.

C. Marshall, aged 22, a Virginian by birth, had his leg broken by an accident on the Panama Railroad, as he was returning home ; ten days after the accident he entered the New York Hospital, where he was treated. Nothing unusual occurred ; and, at the expiration of eight weeks, he was discharged, cured. Diet was mixed, being the usual hospital allowance.

The following samples of urine were obtained after three weeks of confinement, and, therefore, represent the urine of absolute rest.

Analysis.	Urine.	Solid Residue.	Urea.
	In Grammes.	In Grammes.	In Grammes.
19	871.	55.598	25.271
20	775.	51.440	27.323
21	743.	51.023	26.816
Total for 3 days, 2389.		158.061	79.410
Mean for 24 hours 796.		52.687	26.470
1000 of Solid Residue contain 502 parts of Urea.			

Comparing these results with our standard we obtain the following table :

	Total Urine.	Solid Residue.	Urea.	1000 S.R. cont. of Urea.
Standard . . . .	1106·	55·584	27·213	490·
Absolute Rest	796·	52·687	26·470	502·

From this we see that there is a small diminution in the total quantity of solid residue and urea, excreted in a state of absolute rest, but the solid residue is richer in urea.

*The Amount of Urea Excreted in Violent Muscular Action.*—For the purpose of determining this, I walked at different times a distance of thirteen miles on a level causeway, the greater portion being performed at the rate of four and a-half miles an hour. The pulse in each trial rising to above one hundred. Diet same as in the standard.

Average daily amount of motion, 13 miles.			
Analysis.	Total Urine.	Solid Residue.	Urea.
22	1042·	53·943	26·551
23	768·	50·120	24·394
Total for 2 days, 1810·		104·063	50·945
Mean for 24 hours, 905·		52·031	25·472
1000 of Solid Residue contain 489· parts of Urea.			

Comparing this with our standard we obtain the following table :

	Urine.	Solid Residue	Urea.	1000 of S.R. cont. of Urea.
Standard . . . . .	1106·	55·584	27·213	490·
Violent Motion . . .	905·	52·031	25·472	489·

Which demonstrates that when sudden and violent exercise is taken, the total amounts of solid residue and urea are diminished, while the proportion of urea to solid residue remains about the same.

Now if the urea in urine was altogether the product of muscular disintegration, the conditions which prevailed in experiments 22 and 23, would have greatly increased its

amount, but, instead of this, we find that in the same individual, and under otherwise the same circumstances, violent muscular action does not increase the total quantity of urea passed in a day.

Again, in a state of absolute rest, if the urea was owing mainly to the disintegration of tissue from exertion, we should expect to find a comparatively small amount of that substance present, and this quantity would represent the destruction of the muscular tissue engaged in carrying on the process of organic life. But, instead of this, we find from experiments 19, 20, and 21, that in rest as perfect as can be obtained, there is no great diminution in the total quantity of urea excreted, and that the solid residue left after the evaporation of the water, is actually richer in urea.

We therefore conclude that violent and brief muscular action does not exercise any great influence on the urea in urine. Nor is it probable that that substance has passed out of the system through the skin, as an ingredient of the sweat. It is also equally improbable that it has escaped by way of the intestinal canal, for urea is not a normal ingredient of faecal matter, except when the kidneys are exsected, or their function is in some way disturbed. But we are supposing that an excess of urea has been formed, and the reason we give for this supposition is, that if such violent action were continued for a great length of time, the muscular structures would greatly decrease in weight. And as urea contains a large quantity of nitrogen, which is also a characteristic component of muscle, we therefore say that urea represents the disintegration of muscle. But may it not be that the nitrogen contained in the destroyed tissue has escaped directly through the lungs, without entering into composition with other substances. This is not all improbable, for the experiments of MM. Regnault and Reiset on respiration have shown that warm-blooded animals, under the usual circumstances in which they exist, excrete by means of their lungs an amount of nitrogen equivalent to from  $\frac{1}{100}$  to  $\frac{1}{50}$  of the oxygen consumed.

It has been supposed from the experiments of Dr. Simon, that violent exercise increased the amount of urea, but if we examine his analyses as they are given in his "Chemistry of Man," it will be seen that as the amount of urine is not given, we have no means of knowing whether the total quantity of urea was increased or not. Indeed, it is more probable that the apparent increase is owing to the loss of water by evaporation. The same objection is to be urged against the analyses of Dr. Percy.

Lehmann gives in his work two experiments on the influence of exercise on the quantity of urea. In these, severe bodily exercise increased the amount from thirty-two grammes to thirty-six in twenty-four hours on one occasion, and to thirty-seven on another. It is true that in this case we have an increase, but it is not more than analyses made from day to day would show.

We, therefore, conclude from the experiments thus far made, that sudden and violent exercise does not increase, to any extent, the amount of urea in urine.

As it is evident that exercise does not exert any material influence on the fluctuations of urea, we must seek for other causes, and among these is diet, which has been shown by the experiments of Lehmann, to exert a most notable influence, as may be seen in the following table:—

		Total Urine.	Solid Residue.	Urea.
Animal	Diet	1202·	87·44	53·198
Mixed	"	1057·	67·82	32·489
Vegetable	"	909·	59·23	22·481
Non-Nitrogenized	"	—	41·68	15·410

From this we observe that in an animal diet there are nearly four times as much urea excreted as in a non-nitrogenized one. And if we compare it with the solid residue, we find that in a non-nitrogenized diet, the solid residue contains far less urea than in an animal one.

Comparing these results with those obtained from the experiments given on exercise, we see how great the influence

of diet is, and hence we should be led to suppose that there must be a considerable difference in the amount of urea excreted during the day, compared with that excreted in the night. Accordingly, we come to the second inquiry, viz.: What are the semi-diurnal variations, and what is the influence of rest and motion on them?

*Of the Semi-Diurnal Variations.*—These have not as yet been noticed by any one who has experimented with urine. They are very marked and uniform in their occurrence, and much more apparent than the fluctuations caused by exercise. In order to show them, the following analyses of urine which was passed during the day, compared with those of

Average daily amount of motion, 3 miles.						
Night Urine.				Day Urine.		
Anal.	Urine.	Solid Residue	Urea.	Urine.	Solid Residue.	Urea.
27	....	....	.....	678·	35·802	17·448
28	479·	25·023	13·560	....	....	....
29	....	....	.....	442·	26·406	11·985
30	547·	30·087	15·582	....	....	....
31	....	....	.....	627·	31·618	14·112
32	413·	22·325	12·439	....	....	....
33	....	....	.....	473·	26·022	10·464
34	606·	28·491	13·409	....	....	....
35	....	....	.....	561·	33·709	14·216
36	310·	21·889	11·055	....	....	....
37	....	....	.....	413·	26·809	14·426
38	362·	24·631	12·897	....	....	....
39	....	....	.....	443·	31·492	16·800
40	300·	19·531	10·016	....	....	....
41	....	....	.....	354·	22·000	11·612
42	620·	30·718	12·864	....	....	....
43	....	....	.....	516·	30·505	13·371
44	946·	29·333	15·053	....	....	....
45	....	....	.....	502·	30·161	13·709
46	266·	19·959	10·685	....	....	....
47	....	....	.....	620·	34·774	14·912
48	975·	27·322	14·320	....	....	....
49	....	....	.....	916·	33·000	15·694
50	620·	24·833	12·927	....	....	....
Total 6444·		304·142	154·807	6545·	362·298	168·749
Mean 537·		25·345	12·900	545·	30·191	14·062
1000 of Solid Residue contain 509 parts of Urea.				1000 of Solid Residue contain 466 parts of Urea.		
Difference between the percentage of Urea in the Solid Residue of the day and night 43 in 1000.						

the urine voided in the subsequent night, are given. The day counted from 7 A.M. to 7 P.M., when the night period began.

Diet in these experiments was mixed, and about the same in quantity each day. A moderate amount of exercise was taken.

These analyses demonstrate that the total amounts of solid residue and urea passed in the course of the day are much greater than those voided during the night; while the solid residue of the urine excreted in the night is richer in urea than that of the day.

These results are, doubtless, owing to the influence of diet; for, during the day, food having been ingested, the elimination of the excess begins to take place almost immediately, thus producing an increase in the amount of urea; while, during the night, though the total quantity of urea excreted is less, yet it forms a larger portion of the solid residue. This may be attributed to the fact, that in the day a greater amount of phosphates and sulphates being formed, these, with the chlorides and other salts taken in at the same time, diminish the proportion of urea to solid residue.

If this explanation is the true one, we should expect to find that in absolute rest the amount of sulphates, etc., being less, the difference between the percentage of urea in the solid residue of the day, compared with that of the night, would also be less. But if violent muscular action was undergone, these differences should become greater on account of the increase of the amount of sulphates, etc.

In order to demonstrate that this is so, the following analyses are given.

*The Influence of Rest on Semi-diurnal Variations.*—For the solution of this problem the urine of the patient Marshall, whose history is given above, was used. Analyses of the urine of three days were made.



Night Urine.				Day Urine.		
Anal.	Urine.	Solid Residue	Urea.	Urine.	Solid Residue.	Urea.
51	....	.....	.....	561.	33.709	14.216
52	310.	21.889	11.055	....	.....	.....
53	....	.....	.....	413.	26.809	14.426
54	362.	24.631	12.897	....	.....	.....
55	....	.....	.....	443.	31.492	16.800
56	300.	19.531	10.016	....	.....	.....
Total 972.		66.051	33.968	1417.	92.010	45.442
Mean 317.		22.017	11.322	472.	30.670	15.147
1000 of Solid Residue contain 514 parts of Urea.				1000 of Solid Residue contain 498 parts of Urea.		
Difference between the percentage of Urea in the Solid Residue of the day and night 21 parts in 1000.						

From this we see, that in absolute rest the difference between the percentage of urea in the solid residue of the day compared with that of the night is only twenty-one parts in one thousand; while, when a small amount of exercise is taken, it is forty-three parts in one thousand; this is what we should have expected to find, if the explanation we have given of this variation was the true one.

*The Influence of Violent Exercise on the Semi-Diurnal Variations.*—On the days on which these samples of urine were passed, the same amount of exercise was taken as in the former experiments on violent muscular action.

Average daily amount of motion, 13 mles.						
Night Urine.				Day Urine.		
Anal.	Urine.	Solid Residue	Urea.	Urine.	Solid Residue.	Urea.
57	....	.....	.....	627.	31.618	14.112
58	413.	22.325	12.439	....	.....	.....
59	....	.....	.....	502.	30.161	13.709
60	266.	19.959	10.685	....	.....	.....
Total 679.		42.284	23.124	1129.	61.779	27.821
Mean 239.		21.142	11.562	564.	30.889	13.910
1000 of Solid Residue contain 546 parts of Urea.				1000 of Solid Residue contain 450 parts of Urea.		
Difference between the percentage of Urea in the Solid Residue of the day and night, 96 parts in 1000.						

On examining the result of these analyses, we find that the difference of the percentage of urea in solid residue is as much as ninety-six parts in one thousand, thus giving additional proof that our supposition concerning the cause of these variations is the true one; and by comparing them together, we obtain a table, which is almost an index of the amount of exertion undergone.

Table of apparent Variations of percentage of Urea in Solid Residue of day and night in different degrees of Motion.	
Absolute Rest.....	21 parts in 1000
Moderate exercise.....	43 " " "
Violent ".....	96 " " "

The only other cause to which these fluctuations could be attributed, would be variations in the amount of urea itself. Now, if this was the case, there would be more urea excreted in the night than in the day. But if we examine the following table we find the opposite condition holds.

Table of Variations of total Amount of Urea passed in the day and in the night, during different degrees of exercise.		
	Day Urea.	Night Urea.
Absolute Rest.....	15.147	11.332
Moderate Exercise.....	14.062	12.900
Violent ".....	13.910	11.562

We, therefore, conclude, that the fluctuations of the percentage of urea in the solid residue of the day compared with that of the night, are due to the excretion of the phosphates resulting from mental action, and to the sulphates formed during muscular activity.

We have also supposed that the cause of the increase of the total amount of urea during the day was due to the ingestion of food. In support of this, we give the following analyses:—

In these, the twenty-four hours are divided into five periods. The first four consist of four hours each, and extend from 6.30 A.M. to 10.30 P.M.; while the fifth is eight hours long,

and extends from 10.30 P.M. to 6.30 A.M. As regards the time at which meals were taken; breakfast, a light meal, at 7 A.M.; dinner, constituting the main meal, at 3 P.M.; and tea at 7 P.M. A moderate amount of exercise was taken in the morning:

First Period, from 6.30 A.M. to 10.30 A.M.			
Analysis.	Total Urine.	Solid Residue.	Urea.
61	221·	11·754	5·963
62	162·	9·270	4·312
63	177·	8·516	3·763
64	177·	10·468	5·000
Total	737·	40·008	19·038
Mean	184·	10·002	4·759
1000 of Solid Residue contain 475· parts of Urea.			

Second Period, from 10.30 A.M. to 2.30 P.M.			
Analysis.	Total Urine.	Solid Residue.	Urea.
65	280·	12·782	6·001
66	147·	7·688	3·338
67	236·	10·882	4·552
68	147·	8·427	4·188
Total	810·	39·779	18·079
Mean	202·	9·945	4·519
1000 of Solid Residue contain 454 parts of Urea.			

Third Period, from 2.30 P.M. to 6.30 P.M.			
Analysis.	Total Urine.	Solid Residue.	Urea.
69	177·	11·266	5·484
70	133·	9·448	4·335
71	214·	12·220	5·797
Total	524·	32·934	15·616
Mean	175·	10·978	5·205
1000 of Solid Residue contain 473 parts of Urea.			

Fourth Period, from 6.30 P.M. to 10.30 P.M.			
Analysis.	Total Urine.	Solid Residue.	Urea.
72	184.	10.534	5.629
73	192.	10.571	5.417
Total	376.	21.105	11.046
Mean	188.	10.552	5.523
1000 of Solid Residue contain 523 parts of Urea.			

Fifth Period, from 10.30 P.M. to 6.30 A.M.			
Analysis.	Total Urine.	Solid Residue.	Urea.
74	295.	14.489	7.931
75	221.	11.754	7.022
76	340.	13.772	8.347
Total	856.	40.015	23.300
Mean	285.	13.338	7.766
1000 of Solid Residue contain 582 parts of Urea.			

If we collect together the results furnished by these analyses, we obtain the following table:—

Period.	Number of hours	Total Urine	So'd Residue.	Urea.	1000 S. R. cont. of Urea.
1 From 6.30 to 10.30	4	184.	10.002	4.759	475.
2 " 10.30 " 2.30	4	202.	9.945	4.519	454.
3 " 2.30 " 6.30	4	175.	10.978	5.205	473.
4 " 6.30 " 10.30	4	188.	10.552	5.523	523.
5 " 10.30 " 6.30	8	285.	13.338	7.766	582.

From this table we see that the period of the day at which the greatest amount of urea is excreted, begins about dinner, and continues for a time after tea. The period at which the next greatest amount is excreted is just after breakfast, while during the eight night hours far less is excreted than during the same time in the afternoon.

We therefore conclude that, as the ingestion of food can exercise so rapid and marked an influence on the quantity

of urea, it is the cause of the increased excretion of that substance during the day.

Reviewing the results arrived at, we conclude finally :

#### CONCLUSIONS.

1.—Exercise does not increase to any extent the amount of urea in urine.

2.—The ingestion of food during the day causes a greater amount of urea to be excreted at that time than is excreted during the night.

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ART. II.—*Fibrous Tumor of the Uterus Successfully Removed by Abdominal Section, and Recovery of the Patient.* By DR HERFF, of San Antonio, Texas; Reported by J. D. B. STILLMAN, M.D., Member of the N. Y. Pathological Society, late Physician at the Demilt Dispensary, etc.

THE following case came to my knowledge while on a tour through Western Texas, and deeming it one of extraordinary interest to the profession, I succeeded in obtaining from the accomplished Surgeon who operated, a brief statement of it.

Mrs. Ring, of Port Lavaca, aged 43, twenty years ago perceived a tumor in the abdomen, which increased slowly, and for a long time caused her no considerable suffering or any derangements of the urino-genital functions. She had during the time several living children, as well as a number of miscarriages. During the last few years, however, she suffered much from pressure upon the rectum and bladder, as well as prolapsus uteri. Menstruation became scanty, and fluor albus very troublesome. She had at no time dysmenorrhœa neuralgia, or menorrhagia. In the fall of 1852, after lifting a heavy burden, she felt as if something in her abdomen had given way; after which she was laid up for a week or two, with severe pains in the abdomen, accompanied with fever. From that time she suffered almost constantly with great pain in the region of the tumor, over which, about four months before her application to Dr. Herff, several small abscesses appeared. She had suffered during that time

from hectic, night sweats, diarrhœa, and was so far reduced as to be unable to stand alone.

*Present Condition.*—The abdomen was enlarged from the navel to the os pubis, to about the size of one in the sixth month of gestation; the enlargement, however, was not in the mesian planis, but more to the left side. The tumor was slightly movable laterally, and adherent to the abdominal walls, which were thin from extreme emaciation. The fistulous openings were three in number on the left side of the linea alba, and admitted the probe to the depth of no more than one-fourth of an inch, from their small size and sinuous course; the discharge from them was sero-purulent. The vagina was much relaxed, the cervex uteri inclined to the right side, and very low down, and the os very sensitive.—The use of the uterine probe was objected to by the patient. The female catheter entered without difficulty into the bladder. The finger introduced into the vagina and rectum could readily feel the tumor through the walls and spatium Douglassii.

*Diagnosis.*—Encysted tumor of the left ovarium with inflamed internal membrane of cyst; adhesions to the peritoneum; suppuration, and perforation of the abdominal walls.

The diagnosis was chiefly founded on the improbability of the patient's having children, with such a tumor in the womb; on the lateral position; slow growth; and perforation to the surface. Dr Herff thought that had he been permitted to use the uterine probe, he would have immediately discovered the connection of the tumor with the uterus itself. The patient insisted upon an operation, and was full of confidence in its success. His intention was to make a small incision in the supposed cyst, to empty it of its contents, and then to pull out the cyst itself without opening into the abdominal cavity, and remove it with the knife or ligature.

The operation was performed in the presence of Drs. Schloeman, Morgan, and Wette, of San Antonio, the husband, and some friends of the patient, on the 12th of August, 1854. The patient was put under the full effects of chloroform, and

a small incision made in the linea alba. The incision led to a firm tumor which had a somewhat bony feel. The peritoneum was adherent to the whole anterior part of the tumor, and only separable with difficulty from it. The incision was enlarged to the length of five inches, by which means the doctor could introduce his hand behind the tumor, and free it from all its adhesions. It now appeared that the tumor originated in the substance of the uterus, which was enlarged to the size of a child's head at birth. There were two or three pseudo-membranaceous connections with the mesenterium of the colon, which were separated with the scissors. The tumor was detached from the uterus by the scalpel-handle and fingers. Very little hemorrhage followed, but a cavity was left in the body of the uterus large enough to admit the fist, but it did not open into the cavity of the uterus; it did not close by contraction as wounds in that organ are accustomed to do, after the Cæsarean operation, and into which the bowels would have inevitably fallen. It became necessary, therefore, to stitch the wound in the uterus with four strong sutures of silk, which were led out at the lower angle of the abdominal wound. The latter was closed by twelve sutures and alternate strips of adhesive plaster. The time occupied was forty minutes, during which time the patient was kept under the influence of chloroform.

The tumor was nearly round, four inches in diameter, of a very hard, fibrous structure, without any elements of muscular fibre. The portion connected with the peritoneum was covered with lamina of phosphate of lime, the twentieth of an inch in thickness, and bearing a close resemblance to spiculæ of bone. Weight of tumor four pounds and three ounces.

After the operation the patient complaining of severe pain in the abdomen,  $\frac{1}{2}$  gr. morph. was administered. Cataplasms of slippery elm were kept upon the abdomen for three days. No other nourishment was allowed than rice water. During the first twenty-four hours the patient was kept under the influence of opium, of which she took one grain every three hours. The second day she had no fever or pain. In the

evening one grain of opium. On the third day there was administered of *oleum ricini* ℥ss, by which a natural evacuation was obtained. On the fourth day the cataplasms were discontinued, and a part of the stitches removed, the remainder of which were removed on the fifth day. The abdominal wound was entirely healed, except the lower corner, which was kept open by the passage of the ligatures in the uterus. Four weeks after the operation these threads were withdrawn by the assistance of a small exploring trochar, through which the threads were passed, and traction made upon them, pushing at same time with the trochar, to confine the traction to the point of attachment with the ligature.

Five weeks after the operation the patient left in the mail coach for her home, a journey of forty-eight hours. She has been since then, a period of fifteen months, in good health, and is now superintending a large hotel, and only suffers from a hernia in the *linea alba*, which is easily kept back by an elastic bandage.

The interest which Ovariectomy and kindred operations have excited for some years past, and the discussions which they have elicited, give to this case of Dr. Herff's a value extraordinary, even among the extraordinary operations with which it is classed.

In Ovariectomy it has been usual to make a preliminary exploratory operation, and when a solid tumor has been found to desist from its performance. Up to 1844, every attempt at their removal, six in number, proved fatal. Our countryman, Dr. Atlee, of Philadelphia, has the credit of performing the first successful removal of a tumor attached to the fundus of the uterus, in which the patient recovered.

This was a pedicular tumor, and the pedicle was first ligated before excision. He operated again successfully in 1849 for the removal of a tumor of similar character, and probably in the same manner, though the details of the case are not published.\*

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\* See *Atlee's Analysis of cases of Ovariectomy*, in the *Transactions of the American Medical Association*, vol. iv.



Dr. Herff's is the third case, and this in some respects is unique. Enlarged uterus and adhesions were both present, and the sessile attachment of the tumor precluded the use of ligatures previous to removal, and he dissected it away without the knife. It may be well for me to state that Dr. Herff is a Russian by birth, but now a citizen of the United States, and a resident for six years past in the city of San Antonio, Texas, where he is held in the highest esteem by gentlemen of the profession and the public, and has gained for himself a surgical reputation second to none in the State. The successful result of this case must be ascribed in no small degree to the extraordinary salubrity of the climate, which is such as to give a larger average of recoveries, Dr. H. tells me, than is usual in more humid climates.

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ART. III.—*Epidemic Dysentery as it prevailed in the village of Cold Spring, during the years 1854-5, with Comparative References to the History of the Disease as it has prevailed epidemically in other localities.* By FREDERIC D. LENTE, M.D., Surgeon to West Point Foundry.

DYSENTERY became epidemic in this village about the 1st of August, 1854, and continued until October 24th, when the last case occurred. Previous to August 12th, when the first intimation of an epidemic manifested itself, many mild cases, easily controlled by treatment, had occurred; but as no notes of these were kept, they are not included in this paper. In 1855, the epidemic tendency of the disease also manifested itself about the 1st of August, and continued until the middle of October, though a few straggling cases occurred as late as the 1st of November.

It is difficult to assign any local cause for the occurrence of this epidemic; for the successive seasons in a locality usually remarkably exempt from the disease, with the exception of mild sporadic cases. A drought prevailed during the summer of 1854, more severe and protracted than has occurred in this place for many years. The springs, which usually furnish a superabundance of the finest water, were

much affected; to this cause, some non-professional persons here were inclined to attribute the disease. This drought continued until somewhat late in winter, and the disease also continued unusually late; cases having occurred after two severe frosts, and as late as October 24th, as above mentioned. The summer of 1855 was also an extraordinary one, meteorologically speaking. First, on account of the lowness of the temperature; there was not a really warm summer's day here during the month of August, generally one of our hottest months. During the earlier part of the summer, there were a few intensely hot days, three or four at a time, immediately succeeded by weather more suitable for early spring or late autumn, rendering ordinary summer clothing uncomfortably cool. Considerable quantities of rain fell during the early part of the summer, followed by a drought of short duration in September; after which, rain again fell in abundance.

We do not pretend to ascribe the origin of the epidemic to meteorological causes, much less to particularize these causes. But the atmospherical and terrene conditions prevalent during each season that the epidemic has visited us, though widely different, were such as to render the system not unlikely to be affected by hepatic congestion, and intestinal inflammation. During the first season, the epidemic was mostly confined to the village, and, for the first half of it, almost exclusively to one street, that nearest the Hudson River, where almost every house had a case, and some of them two or more.

During the season which has just passed, the disease commenced in the village, but soon spread into the surrounding country, where it prevailed extensively.

For several years past, the village has been remarkably exempt from *malarious* diseases. Bilious remittents being very uncommon, and intermittents not epidemic, and easily controlled. In 1854, for about two weeks, cases of intermittent fever were quite prevalent, and, during the summer which has just passed, the disease was more common than

it has been for some years, but mostly confined, during both seasons, to certain localities, which were rather less visited by dysentery than other parts of the village; a fact, which, so far as it goes, indicates no malarious element in the causation of the epidemic, nor were any of the fevers complicated by dysentery, nor succeeded by it, such complications, according to writers on the subject, being not unfrequent. Two cases of acute hepatitis, a disease which had not previously fallen under our notice here during a residence of four years, one in a child six years old, the other in an adult, occurred during the past season. The first occurred in a crowded room, where two severe cases of dysentery still existed; the other, a very severe and protracted case, occurred when no dysentery had existed; both cases terminated favorably.

The whole number of cases under treatment, of which notes were taken, during the two seasons, was one hundred and thirty-nine. Of these, thirty-six were adults, and forty-three children,\* whose average age was a little less than three years. With very few exceptions, the adults were in the prime of life, from twenty to forty-five years.

Very careful notes of most of these cases, of all those that were most severe and protracted, were taken, generally at two or three different periods during the day and night, sometimes oftener. Only the general results, however, will be given in this paper, and no cases introduced in full, except a few which may be necessary to illustrate the effects of a particular remedy. Among the whole number of cases (139) there were *six deaths*, or 4·31 per cent. Three of these occurred among adults and three among children; making the percentage of the former about 3·00 per cent; for the latter about 7·00 per cent. Of the three cases which terminated fatally among adults, one was *fifty-nine* years of age, with a constitution completely broken down by long years of dis-

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\* Many more cases besides these presented themselves for treatment, but, although presenting all the characteristics of dysentery, were not so severe as to cause confinement to the house and bed, and of such cases no notes were taken.

sipation and intemperance, and whose case was complicated by delirium tremens; another was *seventy-nine* years old, residing several miles in the country, rather uncontrolled by those having charge of him, and who could not be visited but once a-day, or sometimes once in two days. If we reject those two cases, almost necessarily fatal under the circumstances, the percentage of deaths for adults would be one per cent. Of the three deaths among children, one occurred in a child ten months old, within three days from the commencement of the attack, of cerebral disease, which quickly supervened upon the intestinal affection.

We will first describe the symptoms and treatment of the disease as it appeared among adults. The disease invariably assumed the *sthenic* form; though, in several cases, a sub-acute variety of this form; in no instance, even among the severe and protracted, and the fatal cases, running into the *typhoid*, *gangrenous*, or *putrid* varieties described by several writers. The cases were generally pretty uniform in their progress and characteristics, with the exception of their duration, in which they widely differed. Some, which appeared to assume, at their inception, a very violent form, rapidly yielding to treatment, and convalescing in a few days. Others, commencing mildly, and giving every indication of a speedy cure, proved, in the end, exceedingly troublesome and uncontrollable. This was the case both among adults and children. Most of the patients, when attacked, were in full health, and at their work, and, in most cases, continued to labor until the pain or the debility produced by the complaint, compelled them to desist. In a large majority of cases, also, they had themselves applied remedies of various kinds, before calling in medical advice; these remedies, for the most part, consisting of castor oil, sometimes in repeated doses, sometimes combined with laudanum; sometimes the latter was used alone. In some cases, "hot drops," and in others, "burnt brandy," etc., was employed. By all these, the disease was generally aggravated; though, possibly many cases, which did not come under our notice at all,

were cut short by these remedies, as will sometimes happen. Most of the cases, therefore, had had the symptoms of dysentery for several days, ranging, according to the notes, from two days to two weeks or more, generally about four days, before applying for medical aid, some of them in a violent form. In stating the *duration* of the disease, then, it will be understood that the time noted refers to the period elapsing between the date at which the regular treatment of the case commenced and the date of convalescence, at which latter date, or, in many cases, a day or two previous to this, all medicines had been discontinued. Among the particular class, to which most of my cases belonged, being operatives in the foundry, for the most part laborers or "helpers" of the mechanics, it is not always easy to get reliable information as to the duration or previous history of their ailments.

During the season of 1854, there were fifty-seven adults and nine children under treatment; the average duration of treatment for adults was  $6\frac{1}{4}$  days, for children,  $14\frac{1}{2}$ . In 1855, there were thirty-nine adult cases, and thirty-four children; the average for the former was  $6\frac{3}{4}$  days, and for the latter 11 days; making the general average for both years,—for adults about the same, and for children,  $12\frac{3}{4}$  days. Only two of the cases, among adults, were protracted to any great length of time, one in each year; one to 48, the other to 41 days. But, even after this period the debility and various annoyances, which usually succeed tedious cases of this disease, prevented the patients from pursuing their avocations for several weeks longer, but required no medical treatment. In one or two cases of a violent character, when ulceration had ensued, the purulent, gruel-like evacuations, sometimes mingled with a little blood, continued more or less for several months after the patients were able to go about their usual business, requiring attention to diet, and sometimes a little medicine, and indicating the existence of something abnormal in the system by the general aspect of the patient; but they eventually recovered perfectly, and during the succeeding season

(1855), when the same epidemic was prevailing, were remarkably free from any symptoms of their previous trouble. And it may be remarked that all the subjects of the disease, even those who had it most severely, and were kept under treatment for periods varying from a week to three weeks or more, are now, with the exception of the fatal cases, as well as they were previous to contracting the complaint; in one or two instances, among children, apparently in better health.

*Symptoms.*—The cases usually commenced, as far as could be ascertained, with diarrhœa, for which, generally speaking, no particular cause could be assigned; certainly it seldom appeared to be due to irregularities of diet. This diarrhœa usually soon merged into small mucous or bloody stools, or more commonly both combined, and usually accompanied with pain in the lower part of the abdomen, generally very slight at first, and tenesmus. In a few instances, the discharges were, from the first, almost all blood, of a rather thin, diffluent character. The evacuations soon became very frequent, every half-hour, or in many cases, every few minutes; the tenesmus and the pain across the lower part of the bowels becoming excessively severe, but generally subsiding, to a considerable extent, during the interval between the discharges. In many cases, a distressing pain was complained of in the lumbar region, more intolerable than the cutting pain in front. After the disease had progressed in this way for a time, there was generally tenderness on pressure over the abdomen, especially over the track of the descending colon, sometimes confined to this part. The tenderness on pressure was not, however, usually very severe. There was seldom any vomiting, or any considerable nausea, in the early period of the disease, unless induced by the remedies employed. In two of the three fatal cases, however, vomiting was, from the first, a troublesome symptom. When vomiting did take place, it was generally of yellow or greenish bile, sometimes in large quantity. *Hiccup* was observed in but one case, and was troublesome for twenty-four hours. *Thirst* was almost always complained of, generally urgent, at the same time.

There was seldom much heat of skin or febrile excitement. The skin was, however, universally dry and harsh, and it was found difficult to induce any degree of diaphoresis. The *urinary secretion* was not materially altered. The *pulse* was often about natural in frequency and force, except when temporarily excited by the tenesmus, or by the cutting, griping pain in the abdomen. It was very seldom hard and bounding, and very often noted as feeble and frequent. The *tongue* was much coated with a white or yellowish fur; in a few cases dry and brown,—in most cases moist. In the cases in which the former condition was noted, there was not noticed more than in others, any tendency to a typhoid character. There was no tendency to *cerebral* disturbance noticed in any of the cases except two, one of which had delirium tremens. As the disease progressed, the discharges very frequently altered, after a few days, from slimy mucus and blood, to the latter mingled with those fibrinous shreds, which have been very aptly compared to meat washings in appearance; after a time, very commonly, to the latter unaccompanied with blood; these latter discharges, however, often appeared quite early in the attack. Later, if the disease continued unchecked by the remedies employed, these evacuations became mixed with a purulent, gelatinous substance; and finally, in the protracted cases, to a purulent, gruel-like fluid, alternating, now and then, with bloody mucus. In a few cases those discharges continued for several weeks, even after the patient was able to resume his occupation, and had moderately strong diet. In but few cases was any *scybala* noticed. In many cases, under the influence of remedies, the discharges would become bilious and feculent, sometimes for twenty-four hours or more, to give place again to those of a dysenteric character. In most of the cases, even among the worst, a bilious discharge could generally be obtained by a mild cathartic, to be, for the most part, succeeded by the regular unhealthy evacuations.

*Contagion*.—The question of contagion or infection has been much discussed by writers on this subject. During the

first season of the epidemic, it did not clearly manifest a contagious character, unless the fact, already alluded to, of its having existed almost exclusively, for some time, in one street, among a small number of houses adjacent to each other, be taken as an indication. During the second season the epidemic became undoubtedly contagious. In proof of it numerous instances might be adduced, but not to occupy more space than necessary, only a few instances will be noticed. In one family, in the country, four or five miles from the village, consisting of five persons, two children and three adults, one of the children, nine years of age, became affected first, and was one of the most protracted and troublesome cases, lasting six weeks. Subsequently the other child, five years old, took the disease in a less severe form. Then the mother and aunt who nursed them; and the father was once or twice during the time slightly affected with the same symptoms, requiring medicine to check them, although he was seldom in the house. In a house situated in the same yard, a man took the disease; and subsequently, during his convalescence, a child eighteen months old, which had been kept in the same room most of the time, contracted it. This occurred in one of the most healthy localities in this vicinity. About a mile from this house was a family consisting of a man, his wife, and four or five children, all living in a very narrow compass, mostly in one room. A boy about five years old was attacked; a week after, an infant; both of whom had it severely; shortly after, another boy seven years old took it. Instances similar to this also occurred in the village; and, in one instance, a child from a section of the country where the disease was not prevailing, came with its mother to the village, to visit a relative sick with dysentery, and, returning home the next day, was attacked by the symptoms. Such instances were too common, both here and in the surrounding country, to be for a moment attributed to chance, or to the diffusion of the epidemic influence through the air; for in many instances, a family would have two or three members taken down in succession, and neigh-



boring families be exempt;—showing that many, who had power to resist the influence of the poison in the diluted condition in which it existed in the atmosphere, succumbed when exposed to the more concentrated form in which it existed in the sick chamber, and especially when the exposure was prolonged for days and nights. There were but very few instances, however, where the disease appeared to be communicated by a limited exposure. It seemed to require a somewhat prolonged stay in the tainted air of small rooms, where, to some extent, the exhalations from the body of the sick, and the odors from the bed-clothes and bed-pan were almost constantly inhaled by those in attendance. In addition to these, fatigue and anxiety no doubt had their influence.

*Treatment*.—In the earlier stages of the disease, when confinement to bed was not rendered necessary by the severity of the symptoms, *rest* in the horizontal position was imperatively enjoined, but probably seldom maintained for any length of time. Very soon, the progress of the disease itself compelled obedience. Attention to *diet* was next enjoined. When the disease became fully developed, want of appetite rendered injunctions against its abuse unnecessary. But, previous to this, and during the convalescence, strict attention was given to this important point in the treatment of dysentery. Arrow root, sago, etc., only were allowed in the cases severely attacked; and but small quantities of these generally were taken, for want of inclination for this species of food, or from total anorexia. A certain amount of food was, however, advised, even when inclination did not prompt. In other cases, especially such as had a pulse below par, toast, crackers, tea, farina, and such like articles were allowed, but this was an exception to the rule. If the disease became protracted, and the strength began to flag, beef tea, chicken soup, mutton broth, “corn starch,” jelly, milk and bread, milk toast, and, in some cases, eggs were allowed; in some, rice; afterwards, mutton, chicken, eggs, beef, etc., attention being given to quantity as well as to quality in all cases.

*General depletion* was not practiced in a single case of the adults, and in but one case among children. As might be inferred from what has been said of the state of the pulse under the head of *symptoms*, this was considered at least unnecessary. *Local depletion* was practiced in but one or two cases, even when the cutting pain, the tenesmus, the tenderness on pressure were urgent, and the bloody discharges very frequent; not because it was considered unlikely to produce a beneficial change in these symptoms, but owing principally to the fact that the means of the patients attacked did not admit of the expense of a large number of the valuable auxiliaries in the treatment of inflammation. It is questionable, however, after a careful examination of the progress of the cases, whether the sufferings of the patients would have been materially lessened, or the duration of the treatment shortened, by a resort to leeches, except in a very few instances. In two or three cases, where the disease assumed an uncontrollable and tedious form, a great variety of medicines were used, as each, in turn, failed of its expected effect; but, in a great majority of the cases, it was found necessary to apply but a small number, the principal of which were *calomel*, *blue pill*, *opium*, *ippecac*, *castor oil*, and *oil of turpentine*.

*Calomel* was used to fulfill two distinct indications: First, in large doses, as a *prompt sedative*, and with some view to its ultimate action in the secretions of the liver and alimentary canal. Secondly, in small doses, combined with other remedies, to produce a more gradual and permanent effect on the secretions; though, with the latter view, it was employed in but few cases, *blue pill* having been generally substituted for it as being more mild in its action. Almost every case was treated by mercury to some extent, in some one or other of its forms and modes of administration, and this agent was regarded as the most efficient, to which all the others were only subordinate and auxiliary. In several cases, as will hereafter be seen, this remedy alone was found sufficient to bring on a rapid convalescence. Before the occurrence of dysentery in an *epidemic* form in this region, we had always

found that calomel or blue pill in divided doses, and combined with some anodyne and diaphoretic, and in some cases aided by mild purgatives and astringents, was effectual in producing a speedy cure. But, in the present instance, it became very soon evident that the disease had assumed a much more troublesome form, and that some means of more speedy relief was necessary. Large doses of opium, and large anodyne enemata, failed to bring any relief to the distressing tormina and tenesmus. The efficacy of scruple doses of *calomel*, so highly recommended by Johnson, Annesley, and others, and recently endorsed by the high authority of Professor Dickson, of Charleston, was then tried, and with signal success. Its action was usually this:—It was generally administered in the early stage of the disease; very often as the first prescription. The patient would be suffering the most intense cutting pain across the abdomen, often accompanied with considerable tenderness on pressure, distressing tenesmus, and passing blood or bloody mucus every ten or fifteen minutes, and earnestly desiring some immediate relief; sinapisms, fomentations, and similar remedies had already been applied; one scruple of calomel was then given immediately; within an hour generally, relief, sometimes complete, would be obtained; for five or six hours, frequently for eight or ten hours, there would be no discharge from the bowels, and very little uneasiness of any kind. In a few cases, the bowels were constipated for twelve hours or more, requiring a dose of castor oil to move them. Generally, after six or seven hours' relief, the patient would have two or three loose bilious evacuations, brownish or greenish, sometimes attended with some pain and griping, sometimes not. In not a few cases, the distressing symptoms did not recur at all, and convalescence commenced; or, only one or two doses of anodyne or astringent remedies, or more commonly a small dose of castor oil, would be required to perfect the cure. In a majority of the cases, however, in from twenty-four to thirty-six hours after the operation of the calomel, the dysenteric symptoms returned, though in a de-

cidedly mitigated form, there seldom being any severe pain or griping, though sometimes tenderness on pressure. In but very few of the cases did the calomel produce any ptyalism or any decided affection of the gums, and in no case did it produce any severe mercurialization. In forty-seven of the ninety-six adult cases, the scruple dose was given, and in a few cases repeated, when the first dose did not seem to have the intended effect, or when the symptoms recurred. The average duration of treatment for these cases was eight and a-quarter days against the general average of six and a-half. *Blue pill* was never given alone, but in combination with other remedies. *Opium* and *morphine* were tried in large doses, and in moderate doses frequently repeated, to allay excessive restlessness, or pain, or tenesmus, or to arrest the discharges when unusually frequent and debilitating, and when other means had failed; but seldom answered expectations. Now and then, morphine, however, had a very good effect after the failure of other means, but did not exert much permanent or curative action. *Dover's powder* was very serviceable in large doses, as an adjunct to the mercurial treatment. *Ipecac* was seldom used in full doses, and when it was, did not seem to have any beneficial action. In small diaphoretic doses, however, and in combination with calomel, opium, or blue pill, it was very serviceable. The *oil of turpentine* was used in many of the cases, and with very marked benefit. But its beneficial action depended on the period of the disease at which it was given, and on the preparative effect of other remedies. Given early in the disease, it was generally inefficient, but very seldom actually hurtful. One case, however, of a very severe character, was arrested from the beginning by this agent. But, given in doses of about ten minims, in combination with mucilage and some aromatic to disguise the taste, every four hours during the later stages of the disease, and after the action of mercury had manifested itself, or in cases where the disease threatened to become chronic, it was more generally serviceable than any other remedy, allaying the uneasy sensations complained of, and

arresting the discharges. In some cases, where a tendency to relapse manifested itself after the disease had been checked by mercury, and in which the same remedy generally failed, it was particularly useful. The *aromatic sulphuric acid* was frequently used in all stages of the disease, in small doses, generally with a view of arresting nausea and vomiting, when present, or when induced by other remedies, and which interfered with their continuance. In such cases, it had an excellent effect, and frequently also assisted in the cure by its astringent action. *Castor oil*.—This remedy was used to some extent in almost all cases. In most cases, it had already been taken in large doses. In cases where the scruple dose of calomel remained unusually long in the system without purgative effect, this was hastened by a small dose of oil. Doses of one or two drachms, seldom exceeding the latter were frequently used at intervals, when the passages inclined to be infrequent, or when constipation was induced by the alterative doses of mercury and opium. As convalescence approached, and only occasional dysenteric discharges alternated with the bilious and feculent, a few of these small doses were frequently required.

The combinations of remedies used, were generally a pill, composed of blue pill, opium, and ipecac, one composed of opium and acetate of lead; sometimes, in the latter stages of protracted cases, one made up of nitrate of silver, sulphate of iron, and opium.

In most of the cases that were not cut short by the large doses of calomel, the first-mentioned combination was given every four hours, until an alteration was observed in the discharges, or, until a decided effect on the gums was observed. This combination was much in vogue, in the medical department of the New York Hospital, during our connection with that institution, in the capacity of resident surgeon, and is, in most cases remarkably mild and efficacious in its action. The acetate of lead did not sustain the reputation accorded to it by many writers.

*External Applications*.—The only one of these adjuvants,

from which any important aid was derived, in the treatment of adults, was the ordinary blistering plaster; though fomentations of various kinds, sinapisms, cataplasms, anodyne plasters, turpentine, etc., were frequently employed, and often with much temporary relief. Blisters were, in general, only applied when much tenderness on pressure existed, and when this did not readily yield to the internal remedies employed, or to the other external applications. The use of the blister was not delayed on account of a dry skin, or excited pulse; and, in almost every instance, afforded marked relief, often within an hour or two. It seldom required repetition, and was allowed to heal as soon as possible. It was used in *twenty-three* of the ninety-six cases. *Leeches* have already been alluded to. *Opiate enemata* and *suppositories*. These were repeatedly used in all the troublesome cases; sometimes with very good effect, generally so, when the patient was able to retain them; but the tenesmus and irritability of the *rectum*, were such that they were seldom retained a sufficient length of time for any good purpose, which caused not a little disappointment, and embarrassment, as they had heretofore been relied upon as an almost certain means of affording, at least, temporary relief to the most distressing symptom.

*Of the Disease as it appeared among Children.*—During the first season, dysentery prevailed to but a moderate extent among children, and intestinal affections generally, were unusually rare. During the past season, it prevailed to a considerable extent among them. Of many cases however, no notes were taken, owing to want of time, to which, therefore, no reference can be made in this paper. Among the forty-three cases of which full notes were kept, there were, as has already been stated, *three* deaths. Many of the cases were of rather a mild character, and soon yielded to treatment. Many, attacked quite severely, and allowed to go for several days without treatment, or tampered with by the empirical administration of various remedies, soon gave way to appropriate treatment.

A majority of the cases were tedious, and troublesome, and required incessant watchfulness, and frequent modification of treatment. Two of the fatal cases died within three days of the commencement of the attack, time being scarcely allowed for the proper action of appropriate remedies. The disease assumed very much the same character that it did in adults; the evacuations were very much alike, except that green evacuations were common with children, and uncommon with adults. The febrile symptoms were seldom severe, and readily yielded to mild diaphoretics. There was seldom any considerable tenderness on pressure over the abdomen. Vomiting was not a more common symptom with children than with adults, and seldom gave much trouble. *Head symptoms* were seldom observed; in one case, however, they proved fatal. The *tenesmus* was very distressing, and the discharges very frequent. The appetite was, from the first, almost entirely lost, and it was frequently difficult to get down sufficient nourishment to support life. As soon, however, as convalescence fairly commenced, it was just as difficult to restrain the appetite. Other symptoms not enumerated were similar to those which obtained among adults.

The general principle of *treatment* was the same for children as for adults. Mercurials, which were at first not so much relied upon, became, at last, from necessity, the main reliance. The scruple dose was, of course, not tried, but sedative doses, apportioned to the age of the patients, were at first tried, but soon abandoned, as their action was totally different from what obtained among adults. In one or two cases, in which the disease assumed a very obstinate form, and where the calls to stool, and the tenesmus were incessant, repeated doses of *morphine* were very serviceable, and it was remarkable what large doses were required by such young subjects. Turpentine was found very useful in doses of three to five minims in mucilage, every three or four hours. *Blisters* were not so generally employed as among adults, and, although useful, did not afford the marked and speedy relief which followed their application in the case of

adults. Purgatives, even of the mildest kind, did not often prove beneficial, and very often seemed to aggravate the symptoms. But, at the very onset of the disease, a purgative of calomel and rhubarb, or of these combined with magnesia, was very efficacious, and in a few cases cut short the disease. The most successful combination of remedies was *calomel*, *opium*, *ipecac*, and *acacia*, thoroughly triturated together, given every two or three hours, and continued, if necessary, for days together, or until the discharges assumed a bilious character; in some cases, no appreciable change occurring for several days, but the disease almost always yielding in time to a perseverance in the remedy. The *calomel* and *ipecac*, were used in very small proportions, but the opium sometimes, required to be combined in comparatively large proportions; always regulated, however, according to the amount of individual suffering, and the frequency of the discharges. In many cases, when the tenesmus was particularly distressing, and the calls to stool almost incessant, it was found advantageous to keep the little patients constantly in the horizontal position in bed, and never to allow the use of the close-stool, but to receive all the evacuations in napkins.

Having thus given a full and fair statement of the origin, progress, symptoms, and treatment of epidemic dysentery, *as it has prevailed in this locality*, for two years past, we have but few remarks to offer in addition. The *mortality*, to whatever cause it may be attributed, has undoubtedly been remarkably small. We cannot boast of anything novel or peculiar in the treatment. There are some points, however, which we may perhaps advert to with propriety.

First, as to blood-letting, depletion, either by the lancet, by cupping, or by leeches, has almost universally been regarded as a *sine qua non* in the management of dysentery.—Among the 139 cases treated by us, the lancet was used in but one case, a girl nine years old; and this proved one of the most troublesome and protracted of the whole number, al-



though there was every ground for hope, from the nature of the symptoms, that immediate relief would follow the abstraction of blood, there was not even temporary alleviation. The case ultimately recovered after a confinement of several weeks, but the prostration was extreme. In no other case did venesection appear to be called for, although, as has elsewhere been stated, the patients were generally in the prime of life, and in full health when attacked. Local depletion, by cupping or leeches, was practiced in but one or two cases ; the reason for this has already been given, and the opinion hazarded that nothing was lost by it. The administration of large doses of *calomel*, though long since recommended and employed with success, has, it seems, but few advocates in the profession at the present time ; and it was with many misgivings that we ventured upon it in the first few cases, although it had the sanction of the great names which have already been alluded to. We have said that it was used to fulfill two distinct indications, viz. : as a sedative, and as an alterative. Regarding the *sedative* action of calomel, many doubts in high quarters have been entertained.—Thus, Headland, in his admirable essay “on the action of medicines,” the most recent, and by far the best, work on the subject, says, p. 10 :—“Some have, without sufficient reason, assumed calomel to be a sedative when given in large doses. To act in this way very large doses have been given in fever and malignant cholera. Calomel is naturally an insoluble substance, and in these cases the function of absorption is at the very lowest ebb, so that it is probable that the large doses are often left unabsorbed, and pass out of the bowels very much as they entered, producing scarcely any more effect than so much chalk mixture.” We do not venture to offer *opinions* in opposition to so high an authority ; we simply offer facts, which facts may be interpreted by each as he thinks fit. We have already stated fairly in general terms the action which the scruple doses of calomel had in the cases treated by us, and, at the risk of increasing the length of this article to a tedious extent, if it has not already been done,

we will insert a number of cases illustrating this point. But before we proceed to this, let us quote the experience of another recent writer on the action of large doses of calomel in a different disease, but of the same viscera. Dr. Vanderveer, physician to the Franklin-street Hospital in 1854, in an excellent article, in the September number of this Journal, on the treatment of *cholera*, as he witnessed it, says:—"Some are very much amazed and frightened if you tell them to give a large dose of calomel alone," \* \* \* \* "now," he adds, "I have generally found calomel slow in its action as a cathartic; in large doses, more *sedative* in its effects; and its cathartic action does not increase in proportion to the increase of the dose." \* \* \* \* "I have never met with a case of *cholera* treated as above stated, and hypercatharsis ensue; on the contrary, it has frequently occurred that patients, both in hospital and in private practice, have been seized with violent vomiting, purging, and cramps, which had, from their own statement, been kept up every ten minutes for one, two, or three hours; and after taking sixty grains of calomel, have not vomited or purged for three, six, or twelve hours after; and in two or three instances in the hospital, after waiting twelve hours, resorted to mild enema to open the lower bowels." Now this coincides precisely with our experience of the agent in the late epidemic of dysentery. Dr. Headland thinks that only a small portion of the dose is absorbed, and that the remainder passes off as an inert substance. But, if this be so, how is it that five or ten grains will increase the purging, and *produce* irritation, as we found to be the fact, and twenty or twenty-five grains *relieve* all these symptoms?

It has been stated that the average duration of treatment was materially lengthened in the cases treated by the large doses of calomel; but we can scarcely attribute this fact to any deleterious action of the calomel, when we see that, in almost every instance, such marked relief followed its administration, and also that many cases required no other remedy. Most of the cases, in which the remedy was used

in these large doses, were very severe, and would, no doubt, have been protracted under any treatment. And, before our confidence was established in the heroic use of the medicine, it was, in some cases, postponed until other remedies had failed; whereas, to be fully effective, we found that it must be employed early in the disease. These large doses were not indiscriminately given, as will be seen from the fact, less than one-half of the cases were treated in this way; indeed, it was only in such as were attacked with particularly distressing symptoms, or when other remedies had already been tried and found wanting, that this was resorted to.

*Case 1.*—W. B., aged about 40. Was called to this patient, August 18, 1854. Has been sick for several days, complaining of pain in the abdomen, vomiting, fever, and bloody stools. Discharges are now almost constant, nearly all mucus and blood; has a severe cutting pain in the abdomen; thirst excessive; pulse about normal; tongue coated; no fever; has not been in bed. Has taken castor oil and laudanum. ℞ hydrarg. sub. mur. ʒj., also, pulv. ipecac. gr.  $\frac{1}{4}$  q. 2. h. August 19.—Patient had two dark, greenish evacuations several hours after taking the calomel; has had no pain since. Took one or two opium pills, and has had no passage for the last ten hours. Feels quite comfortable; skin more natural; no pain; slept well all night. 20th.—During the day had a return of the bloody discharges which have continued to this time. ℞ hyd. sub. mur. ʒj. Evening.—much better, only one evacuation since morning. Has no mercurial factor, and no tenderness of gums. ℞ ol. ric. 3 ij. 22nd.—Has had only two evacuations, which were bilious and feculent. 24th.—Convalescent.

*Case 2.*—T. J., aged 25. Called to patient August 19th. Attacked yesterday with vomiting, pain in the abdomen, especially on the *right* side; frequent bloody and slimy discharges; fever and thirst; pulse accelerated; tongue coated; pain is very severe. ℞ hyd. sub. mur. ʒj, ipecac. gr.  $\frac{1}{2}$  ℥. Rest and low diet. 20th.—Says the medicine oper-

ated several times, producing dark, bilious passages and considerable griping. Is much better to-day, and walking about; has had no passage for several hours. August 23rd.—Has had no return of difficulty. There is no affection of the gums.

*Case 3.*—I. P., aged 22. Called, September 5th. Patient has had several “bilious attacks” during the summer, for which he has taken mercurial cathartics and emetics. Attacked two days ago with “looseness of the bowels.” Has now small, greenish mucous discharges every ten or fifteen minutes, attended with a “cutting, tearing” pain in the abdomen; tongue heavily furred; great thirst; skin natural; pulse soft and rather feeble.  $\mathcal{R}$  hyd. sub. mur.  $\mathfrak{z}$ j. Evening.—No evacuation since taking the calomel; no pain; very little thirst; feels comparatively comfortable. 6th.—Only one passage since yesterday, bilious. Complains of headache.  $\mathcal{R}$  ol. ric. 3i. Evening.—Has had several greenish discharges since morning. 7th.—Feels better. No discharge since yesterday. 9th.—Convalescent. There is no evidence of pytalism.

*Case 4.*—Mrs. C., aged 41. Called, September 19th. Has been complaining for some days of disorder of the bowels. For two days, has been passing bloody and mucous stools every half-hour, and sometimes every few minutes; has fever; excited pulse; furred tongue, and some pain in the bowels.  $\mathcal{R}$  calomel  $\mathfrak{z}$ j. 21st.—Much better. Has required no medicine but the calomel. 23rd.—No return of dysenteric symptoms; no tenderness of gums.

*Case 5.*—I. P., aged 22. Called to patient, September 20. Has been sick for three or four days in the city. Has now ten or twelve passages a-day, consisting of bloody mucus; not much pain (this is the subject of case 3).  $\mathcal{R}$  hydr. sub. mur.  $\mathfrak{z}$ j. 21st.—Had four greenish evacuations yesterday some hours after taking the calomel; one of same character this morning.  $\mathcal{R}$  ol. ricini  $\mathfrak{z}$ j. Has no pain except just previous to stool; no fever. Evening.—Oil failed to operate, and a second dose was taken producing two

bilious stools; skin rather warm; some nausea. R ipecac. gr.  $\frac{1}{4}$  q. 2. h. 22nd.—Had only one passage last night, which was bilious. 23rd.—No passage since yesterday. Stop medicine. 24th.—Convalescent; no pytalism.

*Case 6.*—Mrs. T., aged 25. Called, September 22nd, in the evening. Has been sick for more than a week with “looseness of the bowels,” and occasionally chilliness, followed by fever. Has not been confined to bed; passages have been small, but their appearance not observed until to-day, at noon, when she was attacked with very frequent bloody discharges, attended with severe pain in the abdomen. Took two pills, each containing a grain of opium, and three grains of blue pill; has had no passage from that time to this, ten o'clock, P.M., at which time was attacked with a severe chill, followed by fever. R calomel  $\mathfrak{z}$ j. 23rd.—Was up only twice last night; no blood in the evacuations; has no fever this morning; and no pain. Evening.—Better; no fever; complains only of slight pain in the bowels; only one evacuation within the last six hours. To take pulv. dov. gr. vi. at bed-time. 24th.—Much better. Only one passage last night. 26th.—Convalescent; no pytalism.

*Case 7.*—M. L. aged 46. Called, September 29th. Has been sick five days. Has had bloody evacuations for three days; complains now of severe pain in lower part of the abdomen, and in the lumbar region. Has taken “hot drops,” and other medicines. Tongue moderately coated; thirst moderate; pulse about normal. R hydr. sub. mur.  $\mathfrak{z}$ i. September 30th, calomel arrested the pain, and the evacuations. Has operated several times within the last twelve hours, producing bilious passages; has had no bloody discharge. R pil. opii. et plumb. acetat. gr. i. a. gr. ij. October 1st.—No passage last night; feels “quite well.” To stop medicine. October 8th.—Has had no further trouble; gums not touched.

*Case 8.*—Mrs. C., aged 40. Called, October 11th; has had diarrhoea for some days. For two days has been passing blood, with considerable pain in the lower part of the abdo-

men, tongue furred, pulse about normal. R hydr. sub. mur. ʒi. Evening.—For several hours after taking the calomel, had no passage. It has operated several times, producing bilious evacuations, and some vomiting of bilious matter. Feels much better; has no pain. To take no medicine for the present. October 13th.—Quite well, and about her work; no affection of gums.

*Case 9.*—Mrs. S., aged 48. Called, October 20th. Has been sick for some days, and taking laudanum, burnt brandy, castor oil, etc. Has now very frequent bloody passages, with some pain in the abdomen, tongue heavily coated. R hydr. sub. mur. ʒi. 21st.—Much better; medicine operated freely, producing dark bilious evacuations, no blood in them. 22nd.—No return of dysenteric discharges. 24th.—Patient has required no other medicine, and is quite well. No symptoms of ptyalism.

*Case 10.*—P. R., aged 35. Called, September 28th. Has been “complaining” for a week or more. For two days, has been passing blood and mucus every few minutes. Complains of great tenderness on pressure over the whole abdomen. Says he had a hot fever; skin is now cool, tongue heavily furred, pulse natural as to frequency, and rather feeble. Has taken ol. ricini and laudanum, several times. No relief from either. R hydr. sub. mur. ʒi. Emplast. canth. 5x7 to abdomen. Arrow root. 29th.—Much better, no pain. Medicine operated well. Took two pills, composed of a grain of opium, and two of acetate of lead. October 1st.—Convalescent. No effect on the gums.

*Case 11.*—Mrs. B., aged 30. Called, August 24th. Has been complaining of nausea for three weeks; was attacked yesterday with looseness of the bowels, attended with griping pain, which is now very distressing; evacuations are frequent, small and mucous, but no blood. R hydr. sub. mur. ʒi. Evening.—Bowels have only moved twice since medicine was taken; pain entirely relieved. No ptyalism.

*Case 12.*—H. J., aged 30. Called, September 2nd. Has been passing bloody mucus for some days. Has been going

about and taking no medicine. To-day, was attacked with pain in the abdomen, and noticed that his passages were nearly all blood, pulse feeble and excited, skin natural, tongue furred. R ol. ricini ʒss. cal. gr. iv. ipecac. gr.  $\frac{1}{2}$  m. September 2nd.—Evening; medicine operated freely, producing dark, bilious evacuations. Patient also vomited freely. Passages are again small and bloody, and patient complains of great debility and nervousness. To take a pill composed as follows:—R pil. hydrarg. gr. iij-opii. pulv. gr. i. ipecac. gr.  $\frac{1}{2}$  m. g. 4. h. Sept. 3rd.—Took three pills, and evacuations were completely checked. Complains of nausea and vomiting, and of great tenderness over the lower part of the abdomen, and severe griping occasionally. R hyd. sub. mur. ʒi. and apply emp. canth. to abdomen. Nine o'clock, P.M. Patient is like another man. Has had no pain since the medicine was taken, and no passage for seven hours. Has had three dark, bilious evacuations. No tenderness of gums. September 6th.—Cured.

Case 13.—J. J. aged 48. Called, September 10th. Has had "looseness of the bowels" for several days. For twenty-four hours has been passing blood, and has the usual symptoms of dysentery. R hydr. sub. mur. ʒi. September 11th.—Had no passage for several hours after the medicine was taken. Has had three or four since; the first bloody, the others bilious. R ol. ricini ʒij. 12th.—Much better. Oil operated twice, producing bilious and feculent evacuations. 14th.—No return of trouble. No pytalism. Has gone to work.

Case 14.—M. J., aged 19. Called, September 18. Has had the usual dysenteric symptoms for three or four days; has been passing bloody mucus for two days. Has taken two doses of castor oil. R ol. ricini, ʒss.; cal. gr. v.; ipecac. gr.  $\frac{1}{2}$  m. 19th.—No better; complains of severe pain in the abdomen in addition to the other symptoms. R hyd. sub. mur. ʒi. Evening.—Medicine has operated four or five times; passages are bilious and feculent; pain entirely relieved; is walking about the house contrary to orders. 20th.—Has had two or three bloody evacuations—gums

decidedly affected; mercurial factor well marked. Ordered to bed, and to take R. ol. ricini, ʒj.; tinct. opii. gtt. ij. ℥. Evening.—Medicine required repetition; has had three bilious passages. 21st.—Passages bilious and feculent; no medicine. 22nd.—Convalescent.

It will be perceived that we have confined our remarks solely to the history and treatment of dysentery *as it has prevailed here* in an epidemic form during two successive seasons, and have purposely abstained from offering any suggestions or opinions as to the treatment of dysentery in general, fully agreeing with Dr. Copland when he says: "That writer will but imperfectly perform his duty, who, in giving a history of a most prevalent and dangerous malady, confines himself to the particular form it has assumed during a few seasons within a single locality, or the small circle of which he is the centre, and argues that it is always as he has observed it." It can only be, by comparing together the histories of a disease, as they are given by various writers in all parts of the world, that we can arrive at any satisfactory knowledge of the general value of a particular remedy, or be enabled to assign it a comparative rank in our list of therapeutical agents. This is especially true with regard to this particular disease, than which there is none which assumes more varied forms in different localities, or in the same locality in different seasons, and it is this peculiarity of the disease which satisfactorily explains what would otherwise be a lasting disgrace to the medical profession; namely, the fact, that, in half a dozen different localities of our country, and in other countries likewise, we find as many physicians, each equally honored in the profession, each advocating a different line of treatment for the same affection, one oftentimes diametrically opposed to the other, and each claiming, and honestly too, a large measure of success. What rule, then, are we to adopt in the treatment of this protean malady; or, rather, how is the practitioner, who has just entered upon the duties of his profession, or, in whose



neighborhood the disease has made its appearance in a severe form for the first time, to be guided in searching for a general principle of treatment? The task is difficult; and it is evident that it can only be accomplished by a careful collation of all the features, forms, and symptoms of the disease, as presented in the various reports from all parts of the country, with the peculiar line of treatment adopted in each locality. Fortunately, since the establishment of the American Medical Association, the task is not so difficult; for, in the different volumes of the transactions of the Association, we have a valuable series of reports by competent and reliable men from almost all parts of our widely extended domain, on the subject of the prevailing epidemics of the country, and these reports are particularly full and explicit with regard to the disease now under consideration; being, as it appears, the most prevalent and important malady in most of the sections of country reported from. It may not prove unprofitable, then, to institute here a comparison between the history of the epidemic, as it prevailed here, and as it has appeared elsewhere within the last few years.

Not to indulge in too much space, however, we will confine our inquiries mainly to those topics, concerning which the greatest discrepancy of opinion has prevailed among writers, and to those characteristics of the present epidemic so much at variance with most of the accounts heretofore published. It is somewhat remarkable that so little has been written on the subject of epidemic dysentery for some years past in the various periodicals of our country, with the one exception just referred to. Most of the recent papers relating to it having appeared in foreign journals.

Dysentery, though still one of the most prevalent diseases in all parts of the world, is far less so than formerly, especially in cities and large towns, where it now seldom prevails epidemically. It has also, in common with some other epidemics, lost much of its former fatality. From having been the scourge of armies, ships, and prisons, it has become, as a general rule, a very manageable disease. During three

years of the Peninsular War, the deaths from this disease alone, are said to have amounted to nearly five thousand; and the whole number of cases estimated at 40,000. It is said to have made more havoc among the French troops in Egypt, than the Plague itself. During the first few months after the Allied Armies set themselves down before Sebastopol, dysentery prevailed to a great extent among the troops, the circumstances being remarkably favorable for its development, and equally unfavorable for its treatment; and the fatality was very great. During the last summer, although the cases have been numerous, the success of the treatment appears to have been creditable to the surgeons; the proportion of deaths having been very small, compared to what usually occurs in camp. Occasionally, the mortality in private practice, at the present day, runs very high. "In the year 1852," it is stated in the report on dysentery, to the American Medical Association, that "1,923 persons died of this disease in Kentucky, nearly one-fifth of the deaths from all assigned causes." Dr. W. Johnson, of Hunterdon County, New Jersey, in his report, says of the epidemic of 1851, in that State:—"Never, I believe, in the memory of the oldest inhabitants, has an epidemic been as destructive to the adult population." "Dr. B. F. Lindlay, of Washington County, Penn., furnishes an account of a disease which prevailed in 1851, in Greene and Washington Counties, which was termed by most physicians, epidemic dysentery; and its fatality rendered it a terror to the inhabitants of this part of the country, and an object of deep interest to the intelligent medical practitioner." Dr. Pearson, of Alabama, in his report, "speaking of the malignant form of the disease, as it appeared in and around Warsaw, Sumpter County, says that, nearly or quite three-fourths of all attacked, died—in some instances, whole families, nearly." Sometimes, the mortality, though small in a particular locality, is very great in certain families. Thus, Dr. Thomas, of Tennessee, "was called to a family in which three had already died, and five more died under his charge." Thus, we see that, although

the disease has lost many of its former terrors, it is still sufficiently wide-spread and fatal, to render its history and treatment an object of considerable importance to the practitioner of the present day.

As regards the *causation* of the disease, the coincidence of an epidemic with a severe drought has been noticed in several instances. Thus, in New Jersey and Pennsylvania, "the disease occurred extensively in 1851, when there was a severe drought, to which many physicians were inclined to attribute the disease in part." Dr. Cilley, of Alabama, reporting to the Association in 1851, speaks of a long continued drought as preceding and accompanying the disease, but does not refer to it as a cause. The reports from Michigan, in 1851, say that dysentery prevailed very extensively throughout the State, "while the severest drought has obtained, also, that has occurred for a great length of time."

With regard to the *contagiousness* of the disease, the general impression of physicians appears to be opposed to it, although many high authorities hold to the doctrine; and many writers cite facts which can scarcely be explained, except on the supposition of the existence of a contagious principle. Thus, to quote one very strong instance:—Dr. I. T. Plummer, of Wayne County, Ohio, in his report to the American Medical Association, says:—"The following case occurred eight or nine miles west of Richmond. The father, (of healthy constitution, and robust frame), was first attacked; during his early convalescence, the rest of the family, consisting of five or six individuals, became affected, and afterwards, an old Irish woman, who came to nurse them, was early prostrated; another nurse came and took charge of the family, who returned home in a short time, and also took the disease; there were few or no other cases in the neighborhood." The reporter makes no remark about contagion, except that "few of the neighbors could be induced to nurse the family for fear of it."

Among writers of eminence who are most strongly impressed with a belief in contagion, may be mentioned Cul-

len, who defines dysentery a "contagious fever." Dr. Parr, and Dr. Young, the one saying that it is *generally*, the other that it is *often* contagious. "Pringle, Hunter, Harty, Balfour, and Chisholm, contends strongly for the existence of such a principle," (specific contagion). Good's *Study of Med. Art.—Dysentery*. Pringle, whose experience was very extensive, regards contagion as an admitted fact; since, in speaking of the question of the identity of the miasmatic fevers with dysentery, raised by Sydenham, he adds,—“the circumstance of its being contagious shows that dysentery is essentially different from these fevers.”\* In later times, Dr. Hosack is the firmest believer in the theory of contagion. He says,—“But, although filth may generate it, and give malignancy to the disease, a specific contagion will, in some cases, propagate it, even where cleanliness is observed, and in the pure air of the country.” And he adduces the following instance,—“This was the case, according to Dr. Blane, in the Torbay ship of war, in August, 1780.” “The crew,” he states, “were predisposed to acute distempers, as was to be expected at that season of the year. . . . In this state of things, a man was brought on board, ill of dysentery. ‘Dysentery,’ says Dr. Blane, ‘became the prevailing disease.’”† It is said by some writers to have been communicated to the fetus *in utero*. Dr. James Johnson, on the other hand, is the most positive of all the opponents of the contagion of dysentery. He says,—“Neither dysentery itself, nor its attendant symptomatic fever is contagious.” And he adds,—“In private practice, the belief in contagion or non-contagion in this disease is not of much consequence, but in the public service it is another thing. . . . It is, therefore, proper for all young medical men to entertain correct notions of dysentery.”‡ Elliotson and Watson, in their treatises on therapeutics, doubt the contagion of dysentery; and Dr. Dickson says,—“I, myself, have never met

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\* RUSH'S *Pringle*, p. 225.

† HOSACK'S *Practice of Physic*, p. 346, et. seq.

‡ JOHNSON on the *Liver*, p. 33.

with a single instance that I could attribute to this source." In the various reports which have been made to the National Medical Association, for the last few years, on epidemic dysentery, the question of contagion is seldom referred to, which is somewhat remarkable, considering how complete in other respects, the reports are, and how unsettled the question still remains. A few of the reporters express a disbelief in it, while one or two have noticed well-marked proofs of it. "Hufeland, and some others," says Copland, "state that they have seen the disease communicated by the pipe of an enema apparatus." "Among those who believe in the infectious or contagious character of the disease, the majority have supposed that only the *asthenic* (chronic) cases propagate by infection, and chiefly for this reason," as Copland adds, "that the circumstances in which they occur, are favorable both to the generation of the infectious emanations, and to their accumulation, concentration, and operation on healthy persons."

From the evidence which we find arrayed on both sides of this question, it is evident that, although dysentery, as a general rule, is not contagious, it is, at times, very decidedly so, and sometimes under circumstances but little calculated to give rise to it. That it is, however, not contagious to that extent to render necessary quarantine regulations, we have the almost universal testimony of writers on both sides of the question. We must, however, disagree with Dr. Johnson, when he says that the belief in contagion or non-contagion is not of much consequence in private practice. During a widespread epidemic, much may be done, when the disease happens to assume the contagious form, by proper restrictions on the intercourse of healthy members of a family with the sick, to prevent its spread through the whole family, especially among children, and this, if done quietly and with due caution, need excite no unnecessary fears in the minds of friends and neighbors. We consider this question one of more than speculative importance. The degree of contagiousness of this malady is very analogous to that of *erysipelas*

and *typhus fever*. Idiopathic erysipelas is seldom contagious, but that form which frequently breaks out in the wards of an hospital, among wounded men or those suffering from ulcers, is eminently so. So, with typhus fever; a single case, in the country, or in a large and well-ventilated room, or even two or three cases,—would very rarely propagate the disease by infection to those in attendance, if ordinary care and cleanliness were observed; but place the cases in a confined space, and allow filth to accumulate; or multiply the cases, even in the well-ventilated wards of an hospital beyond a certain extent, and the attendants would very soon feel the effect.

General allusions have already been made to the extreme diversity of *treatment* adopted in this disease. It is our desire, in conclusion, to refer, as briefly as possible, to some individual instances of variety in its mode of management. The *Dublin Medical Journal* contains some valuable statistical information on the subject of epidemic dysentery. In the vols. for 1849, we have an article from “R. Mayne, M.D., of the South Dublin Union Work-house,” on the subject of dysentery as it prevailed under his care in 1846-47-48, with a tabular view of 1222 cases. And in the vols. for 1853, we have the “*Report of Epidemic Dysentery, prevailing in the north of Ireland in 1852, based on returns collected under the direction of a committee of medical practitioners of Belfast, and drawn up by A. G. Malcolm, M.D., physician to the General Hospital, Belfast.*” “Reports were received from sixty-three practitioners, holding hospital and dispensary appointments, and from forty-four engaged in private practice.—Besides these, supplementary notices were received from various other practitioners in the north of Ireland.” •

These reports, together with those embraced in the late volumes of the *Transactions of the American Medical Association*, coming as they do from so large a number of well-educated and well-known physicians, afford a valuable mass of reliable information on the subject of the treatment required in different localities, and in the different phases of

this protean disease, at the present day. The following is a summary of that portion of Dr. Malcolm's report having reference to *treatment*. Of forty-nine replies, "forty-six rely on *opium*, for the most part in combination. A very few, indeed, depend on its individual power. Thirty-four adopt some form of mercurial; thirty-two, in combination with opium; twenty-eight used some form of astringent; twenty recommend mild aperients; twenty-two, abstraction of blood; fifteen speak highly of enemata and blisters." "As to combinations, a majority prefer opium with mercury, next opium with astringents. The principal diaphoretic used was *dov. powd.* A mild farinaceous and astringent diet constantly enjoined. Dr. Brabagen lays great stress on a *change* of aliment, as more important than any medicine." Of forty-two replies on the subject of *mercurial* preparations, twenty-two are favorable under all circumstances; sixteen, conditionally so; only three completely adverse to their employment. Of the twenty-two, only one recommends mercury decidedly to produce salivation. "The terms used by the unconditional advocates of mercury," says Dr. Malcolm, "are extremely encouraging." "But mercury to salivation," he adds, "tells a different tale. For, of all the modes of treatment employed in the twenty-six cases of recovery, it was the slowest."—"The following opinions," he says, "indicate a healthy reaction" (from the favorable opinions previously held of *astringents*). Then follow numerous denunciations from a large number of physicians against a reliance on *acetate of lead* and other medicines of this class. "In corroboration," he adds, "we may mention that the average treatment (under astringents) was sixteen days, or three times longer than with mercury and depletion, while the fatal cases died in one-third shorter time." "Of the sulphate of magnesia and laudanum treatment, great want of faith." Of thirty-eight replies on the subject of purgatives, "only seven used them regularly and repeatedly throughout the disease." Of thirty-six cases taken in illustration of the epidemic, the average

age being forty-three, the average duration of treatment was thirteen days.

The report of Dr. Mayne is valuable from comprising so large a number of cases spread over three successive seasons ; and especially interesting in connection with this paper, as coinciding in its description of symptoms and treatment, very remarkably, in some important particulars, with an history of the recent epidemic which has prevailed here. The report states that a great variety of treatment was tried, on the suggestion of various writers of authority, with more or less success, but that finally *mercury* proved to be "the principal remedy." The author says, "I was, at first, much prejudiced against the use of calomel, from recollecting the severe mucous irritations which it so constantly produces when administered for other diseases, and knowing that its efficacy in controlling mucous inflammation in general is trifling, compared to its curative powers in analogous affections in serous membranes, or paranchymatous organs. The weight of Dr. Cheyne's authority also tended to create in my mind a distrust of the mercurial treatment. It was not, therefore, until repeated trials convinced me of its value, and of the total insufficiency of other means, that I became a perfect convert to this practice. But the admirable essay of the late Dr. O'Brian, of Dublin, Dr. Latham's highly practical treatise, Dr. Fergusson's memoir, and more recently, Mr. Labor's paper on dysentery, in a late number of this journal, and Baly's Gullstonian lectures on the same subject, all advocate the use of mercury, and sufficiently attest its powers." "Very constantly it produces a cure before any symptoms of salivation arise ; the evacuations alone determine when the remedy should be discontinued." "In some very rare cases, salivation was induced by calomel without any immediate improvement in the evacuations, or material alleviation of the patient's sufferings ; a gradual amendment, however, generally ensued in such cases." With regard to the scruple doses of calomel the author tried them very effectually, giv-



ing a dose at bed-time, for two or three successive nights. "In this quantity," he says, "it unquestionably exerts a most powerful influence on the entire mucous tract; affording, at once, marked relief to the most urgent symptoms, and often producing healthy dejections after a single dose." "But," he adds, "I do not recollect that, in any instance, the final recovery was accelerated by this plan." Two grains of calomel with four of Dover's powder usually succeeded." "*Astringents*, whether animal or vegetable, were found to be unsuited to the acute stage, never failing to increase the mischief. *Opium in full doses* most certainly aggravated the disease. *Purgatives* were rarely beneficial. *Laxatives* were, however, very beneficial in the approach to convalescence." "The *turpentine*s rather disappointed me." "But," he adds, "in such cases (cases where relapses have occurred after the use of mercury) turpentine proves a most valuable remedy;" "ipecac. perfectly ineffectual."

The reports to the Am. Med. Assoc. on epidemic dysentery are particularly full from the Western, Middle, and Southern States. On the question of the propriety of blood-letting, there is the greatest diversity of opinion. A majority of these reporters, however, who speak decidedly on the subject, seem to be opposed to it. Thus, to quote Dr. W. Johnson, of New Jersey,—“Experience has taught us (that is, the physicians in his vicinity), that it is safe to treat dysentery as an irritation merely of the intestinal mucous surface. \* \* \*

When a treatment has been adopted consistent with the inflammatory theory, the fatality has always been alarming.” “But one account,” he adds, “has been received, which acknowledges the necessity of depletion.” Dr. Hollingworth, Physician to Girard Coll., says:—“Depletion and counter-irritation by blisters were ineffectually used.” Dr. Mendenhall, of Cincinnati, says:—“General or local depletion by blood-letting was seldom called for.” From another part of the State, the report states:—“Blood-letting was but very little used as a therapeutic agent in the disease.” In Montgomery Co., Tenn. “Dr. Thomas bled one and cupped two,

without any obvious benefit in either case." Dr. McNelly, of Tenn., "did not see a case which he thought would bear the lancet." From Indianapolis, Ind., the report says:—"It was typhoid in its character, and did not admit of depletion, or any active medication." Dr. Walton, of Kentucky, appears as the strongest advocate of depletion. He states that neither he nor Dr. Adair lost a case that had been so treated. But he does not state whether he lost any, or how many, treated without it, or whether there was any difference in the period of convalescence. From Columbiana Co., Ohio, the report is:—"That the disease bore the lancet with advantage, and that those thus treated recovered in much larger proportion than when it was not used." With regard to *mercury*, only one physician expresses himself as decidedly opposed to it as injurious. Almost all seem to have used it in some form or other, generally in combination with other remedies. Dr. Isaac Casselbury, in his report from Indiana, says:—"Mercurials were thought to do a positive injury." This was in 1848. "In the next year," he says, "the treatment differed entirely from the preceding year; mercurials were strongly indicated." The same treatment was required in the succeeding year. But few of the reporters appear to have given the calomel in large doses. On this point, however, we have evidence from two physicians. Dr. Bertholet, of Berks Co., Penn., says:—"By far the most successful treatment was the mercurial. Large doses of calomel, grs. xx a xxx, given at the commencement quieted the vomiting, and checked the diarrhœa. Repeated once in twenty-four hours, they diminished the frequency of the discharges, brought the liver into action, and quieted the general nervous excitement, and, in many cases, evidently arrested the progress of the disease." Dr. B. F. Stevenson, of Boone Co., Tenn., in the report on the epidemics of Tennessee and Kentucky, says:—"He occasionally gave a large full dose of calomel, which always seemed to act as a sedative, and, at the expiration of twelve to twenty-four hours, produced bilious stools." *Opium*, in some form or other,

either alone or in combination, was almost universally used, and the highest encomiums are bestowed on it from almost all quarters. It was seldom exclusively relied on, however, though the report from Michigan says :—"Opium was used by every one who treated the disease, in full, free, and liberal doses." *Astringents* are not well spoken of, except in the latter stages of the disease, or in chronic cases. Dr. Condie, however, states that he *relies* on opiates and astringents, acetate of lead, nitrate of silver, etc. In some parts of Tennessee, also, astringents are highly spoken of. The *Spts. Turpentine* is highly commended by a number of reporters, but generally as a purgative, and in combination with castor oil. Dr. S. P. Hildreth, of Ohio, says :—"Next to opium, the turpentine was thought to aid in arresting the bloody discharges, soothe the irritable mucous membrane, and aid in overcoming the disease, as any remedy used." A report from Venice, Butler Co., on the other hand, condemns turpentine as "aggravating all the symptoms." A remarkable feature in the treatment of a very considerable number of reporters from all the Western and Southern States, is a reliance on large doses of saline cathartics, and the almost universal verdict from those who have tried them is in their favor. Some use them in repeated doses (an ounce, as Dr. McNelly states, every hour), at the commencement of the disease, until relief from the pain and tenesmus is secured, or "until free serous purging is produced." Others give them only occasionally throughout the treatment, and rely mainly on opiates, mercurials, etc. Dr. Wroth, of Maryland, prefers the soda salts. Some physicians of Indiana and Ohio use the bi-tartrate of potash as a purgative. One physician, Dr. Walton, in vol. viii. of the *Transactions*, p. 115, speaks highly of saline cathartics as *prophylactic* in dysentery.—"Free purging with sal. epsom," he says, "as soon as the disease makes its appearance in a family, will go far towards preventing its spread." Injections of strong solutions of nitrate of silver appear to be gaining popularity in some parts of the country.

In the report on the epidemics of Pennsylvania, by Dr. Mendenhall, Dr. Leasure, of Lawrence Co., says that out of one hundred and fifty-three cases, he lost only three. He relied on a combination of opium, ipecac., and calomel. This is the combination we have been in the habit of using in almost all our cases, when the disease was not "jugulated" by the scruple dose of calomel; only substituting the blue pill for calomel, as being milder in its action.

Amid the great mass of apparently conflicting evidence, which we have spread before us in the systematic works on the practice of medicine, and especially in the reports to which we have referred, and from which we have endeavored to extract as fair and impartial a summary as our space would admit, we may still deduce some *general principles* of treatment. Thus, a majority of physicians, at the present day, disapprove of blood-letting, at least as a routine practice, except topical; those who so strongly advocate it, having, no doubt, happened to meet with cases presenting peculiar symptoms, and requiring the prompt and powerful aid of the lancet; and these same persons may, in some future epidemic, find reason to adopt a very different course, as we have seen that Dr. Casselbury was compelled to do in the case of mercury. With regard to *mercury*, there is very little evidence, indeed, in favor of discarding it altogether in the treatment of dysentery. It seems almost invariably to have been used in some form or other; the combination of cal. and opium, and cal. and Dover's powder, being the most common. *Opium*, though largely commended from all quarters, and very justly so, being invaluable in this disease, as in most others where pain and irritation are elements, and though relied upon by a few as the principal remedy, has not often been given to the exclusion of mercury, even by these; and many of the curative effects ascribed to it, have, no doubt, been due to the combination of the virtues of the two. *Cathartics* are very generally approved, and, in many cases, their repeated administration insisted on; and very few physicians venture to treat the disease throughout with-

out a resort to them. The principal difference of opinion being as to the kind of purgative, and the time and mode of its administration. No allusion, however, in any case, is made to a difference in this respect between the treatment of children and adults. We have already stated that purgatives could not be borne in the cases of children treated by us, except at the very inception of the case, when they sometimes "jugulated" the disease. The general verdict is decidedly against *astringents* in the early or acute stages of the disease. Acetate of lead, particularly, so much relied upon formerly, has but few advocates; and nitrate of silver, though commended by several, was generally used in combination with one or more remedies, to which the good results, when they followed, might, at least, in part be attributed. *Turpentine* may, perhaps, be ranked as an exception, the effect of which is not merely astringent, but sedative, perhaps antiphlogistic, to some extent, and, in large doses, mildly cathartic. This remedy, so irritating to the cutaneous surface, has a peculiar influence on the mucous membranes, whether of children or adults; mild, yet prompt and effectual, whether used in large or small doses, which renders it available, in some degree, both in acute and chronic forms of intestinal affections. Emollient and sedative enemata are universally approved, as far as our researches have extended, when they can be tolerated, with one exception.—Dr. Condie, of Philadelphia, who condemns purgatives and enemata of whatever sort, *in toto*, "as irritating to the inflamed coats of the intestines." And, he adds, that he is "happy to find these views adopted by the best practitioners of Europe."

We are surprised to find so little stress laid on the importance of blisters, in this disease, by most of those who have reported on the subject. We have always found it a most valuable auxiliary, both in the acute and chronic forms of the disease. We have found, in the words of one of our former American authorities,\* that "they have a double advantage in this

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\* Dr. Hosack.

disease ; they not only relieve local inflammation, but they diminish the general fever which attends the disease, and should be resorted to as early as possible, after evacuations have been procured." They relieve the fever, by relieving the pain and irritability of the bowels, upon which, for the most part, the fever depends. As regards venesection in dysentery, there appears to be the same danger of employing it extensively in this disease, as there is in the commencement of fever of whatever variety, which was formerly so much in vogue ; that is, if the complaint be not cut short within a few days, there is a natural, and sometimes a rapid, tendency to debility and prostration, which it is often difficult to counteract, especially in a disease like dysentery, where we require to be so cautious as to the use of nourishment and stimulants ; and this tendency, the abstraction of blood may precipitate and increase. The fever attending dysentery, moreover, has generally been observed to exhibit a tendency to the typhoid form. With respect to the use of large doses of calomel, there seems to be often a misapprehension as to their object and mode of action. Thus,—“Some people,” says Elliotson, “would give a scruple dose of calomel at intervals, so as to get the mouth sore as quickly as possible, and, at the same time, to empty the alimentary canal.” Now, if it were our object to get the mouth sore, we find, by experience, that we can much sooner effect it by twelve or fifteen grains of calomel, given in divided doses every hour or two, than by twenty grains repeated several times ; and we would certainly not give the same remedy with the double object of simultaneously salivating rapidly, and of emptying the alimentary canal ; the one being rather opposed to the other. Holland, again, says,—“I believe that a mistake is frequently made as to the manner of operation of calomel and other mercurials, in ascribing effects to their action on the liver, which are, in fact, chiefly due to their influence on the mucous membrane, and glandular follicles of the intestines.”

Now, we conceive it to be principally on these parts that

the calomel acts when we give a scruple dose, for we see that it very seldom salivates even when the dose is repeated, and oftentimes only produces a temporary flow of bile, or what appears to be bile; for, as Holland says, "the secretions and discharges thence (from the intestines) arising, are often mistaken for those from the liver." Thus, the action of the remedy is principally *sedative* in most cases, allaying the irritability of these parts, and, as a secondary effect, carrying off their foul secretions.

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ART. IV.—*Remarks on Occlusion of the Gravid Uterus.* By  
GUSTAV C. E. WEBER, M.D., of New York.

IN looking over the old numbers of the *New York Journal of Medicine*, I find in that for March, 1855, a long and elaborate article on *Occlusion of the Womb*, which seems to have for its motto, "Obliquity of the os uteri the cause of occlusion of the womb." Although not denying miracles occurring every day, there is a probable existence of such a disease, known by the name "atresia uteri," or conglutination of the ostium uteri by false membranes.

As I have had an opportunity of observing a very interesting case of true conglutination of the mouth of the womb by pseudo-membranes, during my service as attending physician in the wards of the "*Gebaeranstalt des Allgemeinen Krankenhauses*" in Vienna, I think it probable that the readers of this Journal, whose attention has been called to the subject, by the entirely new theory of Dr. Willard, might be pleased by a short description of my case.

In September, 1852, Mrs. N. was received into the wards for women in their last weeks of pregnancy, to await her expected confinement. Mrs. N. was for the first time gravid, and was a stout, robust country woman. Upon examination, I found to the right, and posteriorly to the pelvic axis, the ostium externum uteri occluded by a strong membrane, which would not allow my finger to enter. The cervix uteri had the right form for that state of pregnancy, and all

other parts were properly developed. One morning, two weeks after her reception, she was brought, suffering strong pains, (which commenced at about midnight,) to the lying-in ward. Upon examination, the cervix had entirely disappeared, and no sign of an ostium could be found, except, in a small dimple, which was entirely impervious, and around which the womb seemed to be very thin, so that fluctuation could be easily felt. I related the case to Prof. Klein, Director of the Institution, and to Dr. Charles Braun, first assistant physician, who both, on examination, concurred in my opinion, that there existed conglutination of the os uteri. The pains were strong and powerful, with regular intermission of about three minutes. Prof. Klein proposed to make a cruciated incision of one inch in extent, but waited, in order that every member of his class might have the pleasure of "*toucher*" no ostium uteri. After every one present had made an examination, which was about eleven o'clock, A.M. I was called upon to perform the operation, but found on previous examination, to my astonishment, an *orifice* of the size of a half-dollar, lined with a loose hanging membrane, which was thicker at some places than at others. The woman was delivered without difficulty, by the efforts of nature herself, at about 4 P.M., of a strong healthy child.

This was a case of true conglutination of the os uteri by false membranes, where nature herself effected cure by rupturing them. There is not the least doubt that such cases do occur, not as miraculous plays of nature, but by a pathological process which can easily be explained, and only wondered at, that it proportionately so rarely occurs.

Dr. Willard thinks that "*Every one at all conversant with the subject, knows that it is extremely difficult to procure adhesions of the mucous membranes, and that nature has particularly guarded the orifices of the mucous passages, with unwonted care, against the occurrence of such an accident,*" and gives for example, croup and virulent gonorrhœa, forgetting that nature in the first instance takes care that the organizable exudation is coughed



up; in the latter, that it passes away with the urine. In croup, as well as in virulent gonorrhœa, the fibrinous exudation which mostly takes the form of the tubes it is extravasated in, is certainly discharged, but before it becomes an organized membrane, were it allowed to stay at the place of its origin, not giving rise to threatening symptoms, so that nature is forced to throw it out, it would organize and form a pseudo-membrane, under the same conditions as fibrinous exudations generally organize.

(In virulent gonorrhœa, the product of inflammation is not alone fibrinous, but mostly albuminous, which has not so much tendency to organize.)

Adhesions do occur in canals or cavities lined with mucous membranes; it may be through immediate conglutination of the latter, or after their destruction by ulceration. We have plenty of examples of the sort in the total and partial atresia of the vagina, conglutination between the preputium and glands penis, the same between the gums and the cheek, the same between the eyelid and eyeball, etc., etc.

Chronic catarrhal affection of the womb happens very frequently, in young as well as in decrepid women, and the consequence of these affections is excoriation and ulceration, which can lead to a closing up of the os uteri internum and externum, and even of the orifices of the Fallopian tubes, in consequence of which dropsy of the womb with atrophy. We find such stated in all our standard works on Pathological Anatomy, and they are undoubtedly based on truthful matter-of-fact observations, although Dr. Willard thinks that no post mortem examination ever proved that organized adhesions of the entrance of the womb have taken place.

Occlusion of the womb can be occasioned in two ways, either by atresia of the os uteri, or by conglutination of the same, through an organized membrane. Atresia ostii uteri can be complete or partial, and is undoubtedly the product of inflammation, excoriation, ulceration; and, as the result of these conditions, formation of cicatrices between the lips of

the os, and also with the neighboring wall (mostly the posterior) of the vagina. The strength of such union certainly depends upon the intensity of the pathological process, may be caused by injury, or in consequence of the chronic catarrhal affection of the womb, of which we have spoken. Of cases of complete and incomplete atresia there are many on record:—

Hippocrates himself speaks of a *os uterorum connivens* and *conclusum*, although it is not evident that he meant the state of the os we describe; perhaps rigidity of the same. But Aetius Von Aemida, the celebrated physician of Justinianus, and, also, Albucasem, were certainly acquainted with atresia of the womb, for they invented instruments for relieving such. The first recorded detailed histories of such cases were given by Amand, Ruysch, Morgagni, Lauverjat, Gautier and Van Munster; and, in our days, by Lobstien, Grimme, Berger, Reiner, Rummel, Meissner, Kilian, Kaerbel, Gooch, Velpeau, and others.

In a *Dissertatio Inauguralis Medico-Obstetrica*, from Matthias Noisten, of the year 1831, I find a case recorded which happened at the Clinique of the University Bonn, Prussia, 1830. Noisten says of his case:—"Die vigesimo primo Jan., 1830, hora matutina secunda, dolores præagientes apparere; qui per totum diem interdum reversi sunt. In exploratione interna caput dilucide agnoscitur, et uteri orificium, quod facillime consequendum erat, parva fovea, in ossis sacri excavationem directa, satis clare, sed clausum adhuc sentitum est. Postero die, dolores fortiores et crebriores fiebant; nihilo tamen minus orificium uteri clausum remansit; sed inferius uteri segmentum ita expansum et extensum erat, ut facile quis illud pro velamentis proxime rumpendis habere posset, nise locus ille lenticularis omni tempore quam maxime distincte fuisset sentiendus." And further:—

"Dolores ad partum, qui totum per diem adfuerant, ad vesperam fortiores et celeriores revertebantur; nihilo tamen minus orificii status idem semper erat; quare Prof. Dr. Kilian, Director Clinici Obstetricii Bonnensis, atresiam uteri

perfectam suspicatus est. Accuratissima exploratione cum cathetere instituta, conjecturam probatam invenit. The operation consisting of star-like incisions, the centre of which laid at that parva fovea, which was mentioned, the forceps applied, and a dead female child extracted.

*Kilian's Geburtslehre.*—In the *Prager Vierteljahrschrift*, of 1855, I find vol. 3, page 75, a case of Dr. Schweitzer cited, where an atresia of the os uteri existed, and the most powerful pains during four days, unable to rupture the cicatrices between the lips of the mouth of the womb, an incision then was made, and a macerated seven month's child extracted; the mother, after the operation, entirely well. Twelve years previous to her last confinement, the woman was badly delivered by craniotomy, in consequence of which she had a recto vagina-fistula.

Conglutination of the orifice is, also, either complete or partial; complete, when not the smallest sound is able to enter; and partial, when there are one or more openings through which catheters or sounds can be introduced, and the liquor amnii trickles through during labor. Conglutination widely differs from true atresia uteri; the former closes the orifice by exudation of plastic lymph, (be it a "*blunder of nature*," or something else, the fact exists,) which organizes, so that often even not the least trace of it can be found; the latter closes the orifice by formation of cicatrices between the lips of the os, and here, those cicatrices can be easily felt, and the accident diagnosticated. Conglutination is often remedied by nature itself, or by simply pushing one finger against the thin occluding membrane or lower segment of the womb, while in true atresia the womb can only be opened by the knife.

Lachapelle, in her "*Traité Complet de l'Art des Accouchements*," p. 361, etc., gives the first true history of imperforation of the os uteri by conglutination, and also Nægele, in his dissertation, entitled, "*Mogostaciaconglutinatione Orificii Uteri Externi*." Heidelberg, 1835, gives us eight cases of conglutination, of which the history and treatment are minutely narrated.

A great many other cases observed by men of learning and eminence have been described and added to the history of that pathological condition of the os uteri, which is called conglutination of the same.

As to the diagnosis of occlusion of the womb, I remarked already that it is easy in atresia, but in conglutination, where often not a trace of the imperforate os can be found, a careful, quiet examination has to make out the condition. The so-called "*Venter propendens*" of women who have borne several children, is, in a greater or less degree, frequent; so that it is difficult, on account of obliquity of the womb, to detect, by superficial exploration, the ostium uteri. This obliquity of the womb exists to such an extent, as is illustrated by a case of Kilian,\* that the long axis of the same is parallel to the plane on which the woman stands, certainly here exploration with one finger would not be able to detect an orifice, which a thorough examination with the whole hand could not have overlooked.

I have had the opportunity, during my attendance at the Vienna lying-in-ward, to examine more than eleven hundred (1100) parturient women, and never have I found such an obliquity of the os uteri alone, without obliquity of the womb, that detection of the same was very difficult. Obliquity of the os, after my experience, can only be threefold: 1.—The os can be turned towards the sacrum. 2.—it can be turned to the right; 3.—to the left of the pelvic axis. Obliquity of the os, at the full period of gestation, or during labor, towards the pubis, never happens, and that proves that obliquity of the os is only a symptom of obliquity of the whole womb. That irregular contractions of the womb are able to draw the os to such an extent, to the right or left of the pelvic axis, or towards the sacrum, so that it cannot be found, is really too much to expect from the power of a few muscular fibres, even if no counteraction at all were present. But in cases where irregular action of the womb exists, which give rise to crampy pains, all

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\* KILIAN'S *Geburtslehre*, 1840, vol. 1, p. 416.

muscular fibres, longitudinal or others, are all in a contracted (tetanic) state, (the hard uterus can be felt by palpation of the abdomen, even after the short intervals between the paroxysms of the contractions,) one portion of them at times overpowering another, so that the ostium is slightly turned out of the axis of the womb. It seems to me thus improbable, that one portion of the longitudinal fibres, particularly after all pains whatever have ceased, after doses of appropriate narcotics for several hours, should be still in such a state of contraction that the os uteri is so drawn up as to make detection impossible, and the case mistaken for occlusion of the womb.

With regard to the operation "Hysterotomia Vaginalis," I concur in the opinion of our great German author, Professor Kilian, of Bonn, who says in his book, the *Geburtslehre*, vol. 2, page 65: "*The effects of the operation are in the highest degree satisfactory, considering, not alone what is immediately achieved by it, but also the manner in which it reacts upon the organism. With reference to the latter, it particularly merits the highest acknowledgment; and it would be only desirable that everything which prejudice and inexperience brings forth against it might be destroyed.*" I have never had the opportunity of performing Hysterotomy, where there was an occlusion of the womb, either by atresia or conglutination; but I performed it in two cases where the strongest pains, all the dilating manipulations, and medicinal application were not able to bring about a sufficient dilatation of the os for the expulsion of the child, and in both cases, I was satisfied with the result of my proceeding. In one case, the contractions of the womb were enough after five incisions, of from two to three lines in depth, for the expulsion of a living child; in the other case, after four incisions of the same depth, application of the forceps brought forth a dead child. Both cases happened with primipara of advanced age.

I need hardly add, that, although I consider the operation safe and expedient, I still think a misuse of it unwarrantable; the indications must be clearly pointed out, and then

acted upon, not too late, but not too rashly. The modes of operating are many, so are the instruments for the purpose ; but as these lines are solely intended to discuss before the readers of this Journal, the existence of occlusion of the womb by atresia, and conglutination of the os, I think that further remarks and descriptions on the *modus operandi* are not necessary.

I will only add, that in atresia the incisions are made in the form of a cross or a star, through the cicatrices which can be felt. In conglutination the incision must be made in the middle points of the ring (extended through the developed lower segment of the womb) which is formed at the junction of the vagina with the uterus.

This middle point must be the place where the ostium ought to be. Dr. Willard conveys the idea that this point cannot be found.

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ART. V.—*Analysis of One Hundred and Thirty-one Cases of Hydrophobia.*\* By J. LEWIS SMITH, M.D., Physician to the Northwestern Dispensary.

(Continued from vol. xvi. page 62.)

BEFORE proceeding to an examination of the thoracic and abdominal viscera, we will call attention to a remarkable appearance noticed in several instances. In at least nine cases, an emphysematous swelling made its appearance upon the anterior part of the neck, immediately above the sternum. This could generally be traced into the anterior mediastinum, and it extended in a greater or less degree around the neck and upon the chest. In one instance (the patient treated by Prof. Jackson,) the right arm even was involved.

In several of the cases the emphysema was noticed before death, and it is not certain, in any instance in what way it was produced. From its situation, and from what is known of emphysema occurring in other conditions of the system, the supposition is reasonable that it was due to the escape of air from the respiratory organs. And this supposition is

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\* Read before the Society of Statistical Medicine.

strengthened by the fact that the breathing in the paroxysms of hydrophobia is accomplished with so much difficulty, that an occasional rupture of the air-tubes would be likely to ensue.

On the other hand, Dr. Brandreth, who treated one of the patients, removed and inflated the lungs at the autopsy, and in his opinion, ascertained their integrity. Moreover, in case 122, the emphysema continued to increase after death, so as to render it highly probable that it did not occur from a rent in the pulmonary organs. We must recollect, too, that in some instances, an æriform product was found in the cerebral vessels, and the same was occasionally noticed in the vessels elsewhere, and even in the substance of organs. For Prof. Lawrie discovered in the case treated by him, little bladders of gas in the submucous tissue of the stomach. Such products, found in these situations, obviously do not come from the respiratory apparatus.

The weight of evidence, then, seems rather to favor the supposition that the emphysema in question did not arise from lesion of the air passages, and if not, it was, no doubt, due to decomposition of the blood. This last opinion receives weight from the fact that the circulating fluid in hydrophobia has such a dark and putrescent appearance. The subject is, however, more curious and interesting than practically useful.

The appearances presented by the thoracic and abdominal viscera, were for the most part similar to those discovered in the cerebro-spinal axis. The morbid condition most frequently noticed, pertained to the vascular system. The terms used in the records to express this condition are various, but they obviously refer to the same pathological state, viz. :—vascularity. One physician described the organs as congested, another ; as vascular ; another, as engorged ; and still another, as inflamed. In my opinion, there was simply a stasis or passive congestion of the circulating fluid, and I use the term vascular in the following table, as it expresses the appearance without involving any theory.

TABLE I.

	Larynx.	Trachea.	Bronch. Tubes.	Lunga.	Heart.	Pancrea.	Pharynx.	Œsoph.	Stomach.	Liver.	Spleen.	Kidneys.
Natural.	14	6	5	7	15	..	10	17	9	10	9	10
Vascul'r.	21	35	18	30	2	6	26	10	21	8	2	5

The vascularity was ordinarily partial unless in the smaller organs. In the œsophagus in eight cases, and in the stomach in ten, it was limited to the part adjacent to the cardiac orifice, or was most marked in this situation. In the lungs it was usually limited, or properly speaking, in reference to this organ, the congestion was usually limited to the posterior, or dependent portions. This viscus was also in six cases more or less emphysematous.

In several of the records it is stated, that the papillæ upon the tongue, and in the fauces were unusually prominent, and in a few that the sub-lingual and sub-maxillary glands were swollen.

Ecchymotic patches were found in various parts of the body. They were noticed under the serous lining of the pericardium and pleura, and the mucous of the bladder and intestines. They were noticed in nine instances in the sub-mucous tissue of the stomach, lending strong support to the opinion, that the substance vomited in hydrophobia, is depraved blood, as we have conjectured in a former page. And it may be added in confirmation of this view, that in the case treated by Prof. Lawrie, the contents of the stomach examined microscopically appeared to contain the elements of blood.

The par vagum, which more than any other nerve controls the respiratory function presented generally, as we have seen, a healthy aspect in the cranial cavity. In nine cases, the condition of its terminal portion is mentioned, in two of which its sheath was vascular, but in the other seven, both sheath and substance seemed healthy. The phrenic and sympathetic nerves were occasionally vascular, but in other instances of a sound appearance.

Finally minute autopsical examinations of the nervous



twigs, in the vicinity of the cicatrices, made in four cases, gave a negative result. The filaments were healthy.

The records which have been examined in the foregoing pages, were those of undoubted hydrophobia. Care was taken to reject from our table, all in reference to which there was any uncertainty, so that the deductions might be reliable. The reserved records, are those of anomalous, doubtful, and spurious cases, and to these which can now be better appreciated we shall next direct our attention. The preceding analysis has taught us what hydrophobia ordinarily is; the consideration of anomalous and spurious cases will teach us its occasional character, and with what diseases it may be confounded. Moreover, we hope to throw light upon, and, in a measure, aid in settling, certain controverted questions in reference to this complaint. To make the subject more interesting and profitable, the cases will be considered in groups, those being arranged together which present the same or similar features.

#### SPONTANEITY.

I have in my possession records of several patients who suffered what was supposed to be the canine disease, occurring spontaneously, or, at least, without any one knowing the time and manner of inoculation. Some of these patients appear to me to have been the victims of diseases simulating, but distinct from, hydrophobia, and their cases will be considered in the list of doubtful and spurious affections. But the following four presented, with the single exception of the inoculation, the conditions and symptoms of true rabies.

TABLE II.

No.	Sex.	Age.	Supposed Cause.	Duration of		Authority.
				Prod.	Dis'e.	
1	F.	34	Husbands d'th.	1 d.	2 d.	M. Buanout, <i>Lond. Med. Rep.</i> , 1814.
2	M.	12	Expos. to cold.	1 to 2d.	12 h. to 1 d.	Dr. Mombert, Walther, and Ammon's, Jan. 1849.
3	"	17	.....	1 d.	36 h.	Dr. Drake, <i>West. Jour.</i> , etc., 1831.
4	"	35	Expos. to cold.	No pr'd or brief	About 2 d.	Dr. Condie, <i>Trans. of Phil. Coll.</i> , etc., 1849.

The question of the occasional spontaneous occurrence of hydrophobia has been considerably discussed, and, among others, by Mr. Youatt. This gentleman entertains the opinion that it is never developed in the canine race except by inoculation, and, if not among those animals, which are peculiarly subject to it, we cannot reasonably suppose it ever is in man. But facts now and then come to light which tend very strongly to negative the views of Mr. Youatt. We have already stated that in one of the cases in our first table, the disease was communicated by a lap-dog in a neighborhood where a rabid animal had not been known for years, and such dogs have, in other instances, communicated the disease when the idea that they had been inoculated, could scarcely be entertained for a moment.

Again, Dr. Moseley (*Elliotson's Lect., Lond. Lanc., Oct. 31.*) mentions, that when hydrophobia was epidemic in the West Indies, many dogs, which were kept from each other, were seized with it; and dogs brought from Europe and North America were affected when still on board the ships.

A few positive facts are of more weight than a multitude of a negative character; and though Mr. Youatt is confessedly very high authority, it is difficult to explain such facts as those above, unless we admit that the complaint is occasionally spontaneous among dogs. This opinion receives weight, though not proof, from the occurrence, now pretty clearly ascertained, of epidemics of hydrophobia in localities where the disease had not been known for years.

If we admit that rabies may arise among dogs without inoculation, it by no means follows that it may occur in a similar manner in the human species. The vaccine disease is sometimes epidemic among cattle, while men take it only by vaccination. We must consider the facts in reference to man himself.

Pinel and Savirotte, of the older medical writers, published records of supposed hydrophobia brought on by other means than inoculation. The descriptions of these cases which I have obtained are brief, for most of the observations made

by physicians, prior to the present century, were so meagerly reported as to be of little use to posterity, and often to leave us in doubt as to the real nature of the affection.

Pinel's patient was "a young soldier, who," it is stated, "was never bitten by a dog, and who, disliking the military service, secluded himself. His comrades beat the drum, and entered his chamber at midnight. He was seized with convulsions, accompanied with a burning and constriction of his throat, dread of liquids, and copious expectoration, and died after an increase of symptoms." Whether the disease in this instance was true rabies, or whether it was a condition analogous to hysteria, is by no means certain; but if the former, it would still be unphilosophical to assume that he had not been inoculated, for, as we shall see, there is reason to believe that the poison may sometimes be received unconsciously.

The man treated by Savirotte was taken sick after a day of great fatigue, but it is not stated whether he had ever been bitten, so that if he suffered genuine hydrophobia, the exposure and fatigue may have been, for aught we know, merely the exciting cause of the disease.

That among the large number of cases whose histories I have collected there were only four, undoubtedly genuine, in which the disease was not known to be communicated, implies that its occurrence in any other way must be very rare. And if we examine the records of these four, I think we shall have strong reason to believe that they also were inoculated.

The first patient in the table was taken sick, July 12th, 1812, on learning the death of her husband. During her illness, and prior to it, she allowed her mouth to be licked by a dog, which became rabid on the 22nd, and died on the 26th, of the same month. The priority of the disease in the patient to that in the dog, conveys the impression that as she had not been bitten or injured by any other animal, the affection with her was spontaneous, and that she inoculated the dog. But we have seen that animals may communicate

rabies before showing any symptoms of it, so that there is nothing unreasonable or far-fetched in the supposition that the patient was the recipient of the poison from the dog, instead of the dog from her.

The gentleman treated by Dr. Drake was a tanner by occupation, and was seized with the complaint shortly after the occurrence of an epidemic of it among the lower animals in the neighborhood. The doctor in remarking on the case, makes the very plausible statement, that the disease may have been communicated by the handling of hides, especially as the patient had a sore on his finger six weeks previously to the attack.

We see then that in two of the four cases the occurrence of the disease can be explained without resorting to the doctrine of spontaneity; and it is the duty of the medical statistician, as of the physicist, to explain facts or occurrences by established principles, rather than by surmises.

As to the other two patients, it is quite possible that they also were inoculated. They may have been slightly bitten or scratched, without recollecting it, or they may have taken hold of some object on which the venomous secretion rested. When we recollect that the rabid animal is constantly wandering, and biting in his way the inanimate as well as animate, we have grounds to believe that inoculation may take place, and has, in the last mentioned manner.

Facts, then, do not as yet establish or render probable the doctrine that hydrophobia may in rare instances be spontaneous in man.

Before leaving these cases we may mention incidentally that emphysema was noticed about the throat and neck of Dr. Drake's patient the day preceding his death; and at the post mortem examination, this was traced into the anterior mediastinum.

#### FAVORABLE CASES.

It is a matter of interest, and of practical importance, whether hydrophobia is necessarily fatal. That its occurrence may be prevented by a little treatment, when unequiv-

ocal prodromic symptoms have appeared, is clearly ascertained. In the records already examined by us, instances of this are mentioned, and occasionally the threatened attack was more than once averted.

Hear, also, the remarks of that eminent physician, and profound medical philosopher, Dr. Elliotson, on this point. (*Lond. Lanc.*, May 1829,) "Usually, I believe, (he speaks of the premonitory stage) there are symptoms of weariness, general indisposition, dizziness, chills, and flushes; sometimes a pain has been felt in the bitten part. I think it very possible, from an occurrence which happened in my own practice, that these symptoms may go no farther; that the disease, if I may so speak, may go off. Two little girls, standing at their father's door, were bitten by the same dog; a dog passing, snapped at both of them, and bit them in the face. She who was bitten the second, became hydrophobic, and died. The other, at exactly the same time, experienced exactly the same premonitory symptoms as her sister, —heaviness and general indisposition, but they all went off.

"If, then, an attack of hydrophobia may be prevented after its premonitory stage has commenced, may not the disease itself, though fully established in some instances, be thrown off, and the patient be saved?

"The observations of Mr. Youatt, upon the dog, have shown that, in this animal, hydrophobia may occasionally have a favorable termination. In commenting on the second case in table, (No. III.) he says, speaking of one of his canine patients: 'The dog was suspected to have been bitten. It was in a manner certain that it had been bitten, but the wounded part could not be detected, and he was not operated upon. The disease approached; it established itself. There was the perversion of temper; the suspicious scowl; the eager watching of imaginary objects; the darting at some phantom of the imagination; the depraved appetite, and the characteristic howl. The malady pursued its regular course during more than twenty-four hours, and then came a gradual calm—the dog quieted down to his usual appearance and

habits—he became well. \* \* \* Another and another case succeeded. Once in a hundred times, or more, the constitutional affection admitted not of a doubt \* \* and the patient got well.”

The fact that hydrophobia may terminate favorably in the dog, does not furnish certain proof that it may likewise in the human species; but certainly it is an argument of great weight, in support of such a doctrine. The belief is pretty general, that canine madness is uniformly fatal in man. Instances of recovery are reported in the journals, but they have attracted little attention, from the fact, that other diseases possessing a strongly-marked nervous element may be mistaken for true rabies. No doubt there has frequently been an entire misapprehension of the nature of the affection, and several records in my collection confirm this opinion; but the most cautious statistician, it seems to me, must admit that in a part, at least, of the following cases, genuine hydrophobia was present.

TABLE III.

Favorable cases.								
No.	Sex.	Age.	Part Bitten.	Incuba- tion.	Duration of Prod.	Dis'e.	Treatment.	Authority.
1	M.	Ad.	Hand.	3 m.	6 d.	....	Purgatives, stimulants, etc.	Wm. Grant, G. Doane, <i>Med. Gaz.</i> , July 10, 1830.
2	F.	35	Fing'r.	8 d.	5 d.	....	Purgatives, Arsenic, Incision.	T. Tompkin, E. G. Varenue, <i>Lon. Lan.</i> , Aug. 1835.
3	M.	Ad.	Arm.	12 to 14 m.	2 w.	....	Purgatives, leeches, opiates.	Dr. Du Heaume, <i>Med. Gaz.</i> , Dec., 1837.
4	"	17	"	3 w.	Sever- al d.	....	Purgatives, hyd. chlor. lib., opiates.	Dr. Hooper, <i>Medical Times</i> , May 17, 1847.
5	"	..	Th'mb	12 d.	2 d.	....	Hyd. chlor. lib., incision.	W. F. Haines, <i>Lon. Lan.</i> , 1847.
6	F.	30	Wrist.	About 3 m.	About 3 w.	....	Opiates, an- æsthetics, etc.	Prof. Jackson, <i>Amer. Jour.</i> , 1849.

An abstract of the histories and symptoms of these six cases will enable us to judge whether the disease was really ophobia.

*Case 1.*—The wound which was inflicted by a dog, whose condition is not given, healed after the lapse of several weeks.

Nov. 14th, about three months subsequently to the reception of the bite, the patient was seized with headache and rigors, which were relieved by a purgative. On the 20th of the same month, the presence of water distressed him, and attempts to drink caused the characteristic spasms of the neck. The cicatrix had an inflammatory appearance, and he was seen to rub it. He was timid and distrustful, and a viscid secretion began to form in his mouth and throat.

This condition continued till the 21st, when he was placed in a warm bath, and all these untoward symptoms vanished.

The amendment lasted till the evening of the 22nd, when he again became restless, and, on the 23rd, relapse was complete. The dread of water was so great, that the bath was not repeated; but 280 drops of laudanum were administered. He slept six hours, and awoke refreshed and free from spasms. On the evening of the 25th another relapse occurred, attended by a flatulent condition of the bowels.

The records do not state how long the spasms continued; but the patient grew progressively weaker, so as "to require brandy and broths plentifully." On December 14th he was nearly insensible; pulse, 130; extremities cold, and hiccup constant. He was fed with chicken broth, jellies, and stimulants; and, contrary to all expectation, a gradual improvement followed, and on the 8th of January he was able to leave the place.

*Case 2.*—Bitten by a favorite dog, which was killed in a week, with the salivary glands enlarged. The wound was trifling, and healed in three days.

June 30th, eight days after the injury was received, she was suddenly seized with cephalalgia and dimness of vision. These symptoms were momentary; but they recurred at intervals for several days, accompanied by an uneasy sensation in the neighborhood of the bitten finger.

July 4th.—When drawing beer from a cask, she became

giddy ; but recovered, on stopping the cock. The following day her eyes were bright, prominent, and intolerant of light, and she complained of pain in the left side.

July 6th.—Constipation ; aversion to food and drinks, and each attempt to take them followed by a convulsive fit.

7th.—Intolerance of light, and aversion to liquids increased ; complains of pain extending up the arm from the bitten finger ; pulse weak and fluttering, and neck tumid ; the paroxysms last about five minutes.

8th.—One of the cicatrices slightly inflamed, and the symptoms of yesterday continue. She has been treated with aperients and the liquor arsenicalis. Treatment to-day,—excision of the cicatrices, and the application of veratrine ointment over the neck and arms.

9th.—Has improved since the excision ; feels less pain in the throat, and none in the arm, and has had only one paroxysm.

15th.—Continues improving, but deglutition difficult ; gums swelling, probably from the arsenic which she has continued taking.

Aug. 10th.—Has had no return of the complaint. Mr. Youatt commented at length in the *Lancet*, on the above case, entertaining, apparently, no doubt of its genuineness.

Case 3.—Was bitten by his own Newfoundland dog, which two years subsequently, when the records were published, was alive and well. It inflicted the bite from provocation, and did not show, before or afterwards, any suspicious symptoms.

The cicatrix, before the occurrence of hydrophobia, had occasionally been painful, and at the inception of the disease it presented a reddish appearance.

After two weeks of anxiety and melancholy, he was taken, February 11, 1837, with attacks of convulsive respiration.

12th.—Respiration as yesterday ; face flushed ; pulse quick ; bowels flatulent ; pupils dilated but contractile ; rational ; quantity of saliva increased. Twenty-four leeches



were applied to his temples; blisters to the calves of his legs, and purgative enemata administered.

Nine, P.M.—Much excited by the vesication; countenance anxious, and eyes brilliant. Has spasms when water is offered.

13th.—Symptoms as before. The noise of a carriage in the street, the touch of an orange to his lips, and pressure upon the cicatrix, occasion paroxysms.

14th.—Pulseless, insensible, and extremities cold. Had no spasms during the night, but at twelve o'clock to-day a paroxysm occurred, lasting two hours. After this he gradually convalesced. During the latter part of his sickness he took opiates, stimulants, and mercurials.

*Case 4.*—The wound was severe, and inflicted by a dog known to be rabid.

The disease was ushered in by restlessness and melancholy, lasting several days, and when fully developed, the paroxysms were severe. The sound of water, the least noise in the room, opening a door, increase or diminution of light, and the sight of a glass vessel, caused either convulsions or great distress. He complained of thirst, of a constriction across his chest, and of itching in the cicatrix. He was ordered tr. camph. and tr. opii. aa. *zij*, to be repeated in half an hour, and a mercurial.

On the following day he was better. The cicatrix had given way and was discharging. There was no delirium; the paroxysms were less frequent and severe; and he slept four hours in the morning.

After this he gradually convalesced. He was salivated, but not till the improvement had commenced. A year subsequently he was seen by Dr. H. in his usual health.

*Case 5.*—Bitten slightly in September, 1846, by a dog which had been four or five weeks in a singular state, and at the time the bite was inflicted, showed symptoms of rabies, viz. : spasms, dread of water, and increase of saliva.

On the twelfth day after the injury, the wounded part became hot and prickly. The day following it was better,

but the third day it became worse again, and headache, thirst, and restlessness commenced. He now complained of pain in his throat ; his deglutition was difficult ; and five or six times hourly, the characteristic spasms took place.

On the nineteenth day after the infliction of the bite, convalescence was established. The treatment consisted in scarifying and poulticing the bitten part, and in mercurialization.

*Case 6.*—The wounds received by this patient were slight, and inflicted by a strange dog, running in the street.

After three months the cicatrices became red, slightly tumified and painful. One festered and discharged a few drops of greenish matter, and then healed, giving no farther trouble. The other remained hard and painful, and pain extended from it up the arm to the shoulder.

This condition continued a few days, when one morning, as she was drinking, she experienced a sudden shuddering sensation. The following evening the same sensation occurred from putting her hand in water, and violent spasms of the throat, with a sense of suffocation on attempting to drink ; currents of air produced no unpleasant effects ; the fauces were dry, and she retained her senses perfectly. Counter-irritation and anti-spasmodics were prescribed.

On the following day (October 29th) there was an apparent amendment. She had had no spasms since the previous day, and had passed a quiet night. She took water readily, and her pulse was natural ; but the affected arm had lost its sensibility, and there was deep-seated pain in the course of its nerves.

She was ordered antispasmodics with rhubarb and mercury, but the first dose brought on violent spasms threatening suffocation. The paroxysms now recurred frequently, produced by trifling causes, as the waving of the hand, and sometimes occurring spontaneously. Chloroform was administered, and the red and tumid cicatrix excised ; but the spasms continued, and the sight of a silver spoon, and the brushing away of flies, were sufficient to induce them.

The record for October 31st, states that she had passed a comfortable night, and that the wound was discharging freely.

From this time she gradually convalesced. Cicatrization had taken place, and the pain had ceased in the arm by the second week in December, but the shoulder and axilla remained tender, and occasionally painful till the first of January, when her health was permanently restored.

The striking similarity, we may say identity, of symptoms in the above cases, with those which we have seen to be characteristic of hydrophobia leave little doubt, that these patients suffered that appalling disease. This opinion receives confirmation from the fact, that at least four of the dogs which inflicted the bites were at the time, or soon after, either rabid, or in such a condition as to excite the strongest suspicions of rabies.

But the most convincing proof that the above were genuine cases lies, perhaps, in the fact, that in all six, the bitten part was the seat and source of some unusual sensation, or that it presented some unusual appearance, at or before the commencement of the disease. We may then consider it settled, that hydrophobia, though so commonly fatal that one affected with it can indulge no reasonable hope of recovering, does, in rare instances, have a favorable termination.

If we are right in the opinion, that the above were genuine cases, an opportunity is afforded us of learning the course of hydrophobia when not abridged by death. The marked difference in duration of the cases may be explained on the supposition that the poison was of unequal intensity. If the morbid cause were slight, the symptoms would doubtless be transient; but if more intense, so as to disorganize the blood, as in the cases in our first table, we should expect a more severe and protracted form of the complaint. Or the difference may be explained on the supposition of degrees in the susceptibility of the system.

#### COMMUNICATION BY ENRAGED ANIMALS.

Another unsettled question is, whether an irritated animal, though healthy, and continuing so, may communicate

the disease. Instances are not infrequent, as the statistics have shown, where dogs apparently sound, and acting solely in self-defense, have effected a true inoculation. But subsequently they have shown indubitable symptoms of rabies. A few cases have also been reported, in which the offending animals, though watched for many months, continued to all appearance, in their usual healthy condition. This was true of the dog, by which Dr. Du Heaume's patient (table iii.) was bitten. After the lapse of two years it was alive, and apparently well, not having shown a single hydrophobic symptom. At first view, it seems difficult to explain such a case, unless upon the admission, that the bite of the infuriated as well as the rabid animal may convey the venom. But such an inference is not necessary. If, as there is abundant evidence to show, a dog, whose system contains the hydrophobic poison, but yet in its incubative state, may communicate the disease, and, as is equally certain, rabies does sometimes fail of being established, though the system is inoculated, we have the conditions in which, if co-existing, the animal might communicate the affection, without ever manifesting a symptom of ill-health. And an animal in this state cannot, with propriety of language, be called healthy, any more than the person whose system is impregnated with the malarious or syphilitic poison, but who has not yet suffered a paroxysm.

Without denying, then, positively, that a sound animal made furious by provocation, may secrete and impart the hydrophobic venom, we may safely say, there is no evidence of it; and here we may rest the argument, as the burden of proof lies with those who attempt to establish a new doctrine. Moreover, if we consider that in all climates and in all conditions of life, the dog is a constant companion of man, and that though, when treated with kindness, he is a patient sharer in the changes and trials which befall us, yet, if abused, he is quick to retaliate, we should expect hydrophobia to be more frequent, if it were true that the bite of a healthy dog may inoculate.

## COMMUNICATION BY MAN TO MAN?

It is a matter of considerable practical importance, whether an individual suffering hydrophobia can impart the disease to his attendants. It is well known, that Magendie, by his experiments in Hôtel-Dieu, established the fact that human saliva taken in rabies, will inoculate dogs with the complaint, but I have found in my researches, mention of only one instance, where it was believed that man had given the disease to those of his own species. An account of this case, or these cases, was published in *Silliman's Journal* for Oct., 1832, by Rev. William Case, of Chester, Conn., at which place the patients resided, and was copied extensively into the medical periodicals of that day. A brief abstract of this communication will be interesting, and will enable us to judge whether the disease was really the canine madness.

In 1807, W. C., aged eleven, was bitten by a dog having the symptoms of rabies, and which was soon after shot. Fifteen years subsequently, the disease made its appearance, preceded by mental irregularity. "He had a short season of strange excitement during public worship on the Sabbath. At a neighbor's house the next day, he suddenly jumped, screamed, broke windows, and ran out at the door with great nimbleness of foot. He soon became quiet and returned, and when his friends remonstrated with him for this conduct, he said he could not avoid doing this, for he had been bitten by a mad dog. During the progress of the disease, he gnashed his teeth; discharged large quantities of saliva; had distressing spasms; and was set on biting everybody and everything." He made holes in the pillow-cases with his teeth, and took pleasure in attempting to spit on his attendants. If he succeeded, he was seized with a fit of laughter. When he had been in this state fourteen or fifteen days, death closed the scene, Sept. 1st, 1822.

L. T. C. was bitten by W. C., and, three and a-half years subsequently, he became similarly affected. "He would hop backwards and forwards, and talk incoherently for a few minutes, and then say he was sorry he conducted so, but he

could not avoid it." He experienced great difficulty in swallowing, and spurted the water which he took, into the face of his attendants. He frothed at the mouth, and watched his opportunity to bite. His death took place after the lapse of two weeks.

Another person, bitten by W. C., sickened five years subsequently, and died in five days. It is stated that he experienced dread of water, spasms on attempting to take it, and showed a disposition to bite.

Again, another attendant of W. C., and bitten by him, grew sick after the lapse of five and a-half years, and died on the eleventh day. The following account of his symptoms, Mr. Case obtained from the attending physician. "The sight of water produced a recurrence of distressing spasms, or, in the language of attendants, made him rave. In the intervals of spasms he was rational. In one, he requested his father-in-law, to remove his razors, for he did not know what he might be led to do in his turns. In another, he gave this caution to his wife: "I wish you to keep away from me when I have the turns; I know not why it is, but I want to bite, and fear I shall bite you." His attendants think he strove to curb the disposition to bite. It was however very evident! \* \* "The shaking of pillows and bed-clothes in his teeth, was a frequent exercise, \* \* and he watched the opportunity to spit on persons who came into the room. During his sickness, and especially the night before his death, he hallooed dreadfully."

These were, certainly, remarkable cases; but I am far from admitting that the complaint was genuine rabies. Look first, at the long intervals between the infliction of the bites, and the appearance of the disease; fifteen, three and a-half, five, and five and a-half years. Mark, also, the duration of the disease; fifteen, fourteen, five, and eleven days. In both respects we see a discrepancy between these cases and those which we have analyzed as genuine.

Nor did the symptoms bear a strict resemblance to those usually occurring in rabies. The patient with hydrophobia

does not bite and shake his bed-clothes ; is not seized with fits of laughter, nor does he imitate the barking of dogs.

Whatever may have been the nature of the affection, much of their suffering, and, to a certain extent, their symptoms, were obviously the result of fear. Believing that they were the victims of canine madness, and doomed to a speedy and terrible death, it is not strange that they experienced hydrophobic symptoms, even though suffering a distinct disease. We shall see hereafter, in our examination of spurious cases, that the mere dread or expectation of hydrophobia may give rise to a simulating condition of the system. It must be recollected, too, that the facts in these cases were obtained and published by a man not trained in the severe school of science, and that they were learnt from hearsay, mainly, instead of personal observation. Records coming from such a source must be regarded with allowance, especially if the disease afford such a field for the play of the imagination, and for exaggeration, as hydrophobia.

That no unexceptionable instance has been recorded of the communication of rabies by man to man, although the devotion of friends must have furnished again and again, the opportunity for inoculation, can hardly be explained, except on the supposition that the human saliva in hydrophobia is innocuous to those of our own species. In this belief we must rest till more light is thrown upon the subject.

There are other interesting questions in reference to this disease, which have been subjects of much speculation ; but as our statistics do not throw light upon them, we shall not enter upon their consideration. It is left for us to consider only the remaining doubtful, and then the spurious, cases.

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ART. VI.—*On the Effects of Lead on the Heart.* By JOHN W.

CORSON, M.D., late Physician of the Brooklyn City Hospital;  
Physician to the New York Dispensary.

Nothing is unimportant in the science of saving life. If we note faithfully the slightest change in the face, skin, eye, tongue, breathing, voice, secretions, or distant radial pulse—surely we should examine carefully the heart itself. It has strong claims. We have long been convinced, that not merely in cardiac affections, but in disease generally, too little regard has been paid to the varying force and volume with which it strikes against the ribs, or, in other words, to the *impulse* of the heart. There is something still to learn. The Chinese physicians are said to pass the hand over the heart as often as they feel for the pulse at the wrist. Nor do these always correspond. As Wardrop has shown, and as we may often observe, the heart may violently labor when the pulse at the wrist is feeble.

While, indirectly, it might explain some curious effects of lead upon the heart's action, which we shall presently mention, we cannot here stop to discuss the knotty physiological question of the exact cause of the cardiac impulse. Skoda has with learned detail, given more than half a dozen ingenious theories on this subject by Corrigan, Stokes, Bouillaud, Filhos, Gutbrod, Messerschmid, Gendrin, Von Kiwisch, and others.\* In passing, we may simply remark, that the Committee of the British Association, and others, having at last pretty well decided as to the causes of the two sounds of the heart, we trust some new light may yet be thrown upon the vexed question as to the true origin of the heart's impulse, by the proposed inquiry under the auspices of the American Medical Association.

Theorize as we may, we must admit that its variations are important signs of disease. *With enlarged dull space*, as we know, a broad heaving impulse of the heart means organic hypertrophy, and weak, wide, flapping dilatation; while, *without extra dullness*, strong bounding denotes mere congestion of the organ; smart rapping, functional irritation; and soft tapping, cardiac debility. And these lessons from the heart not only aid us in diagnosis, but in treatment. When we remember that in apparent death from catalepsy, electricity, or drowning, its faintest beat is the last sign of life, and calls for the most powerful restoratives; and that, as Dr. Stokes has shown, the weakness or absence of its impulse or first sound, is the true test for wine

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\* *Abhandlung über Perkussion und Auskultation.*



in typhus fever; and add to these, the facts we shall presently state to prove that a faint cardiac impulse with purple gums, promptly suggests lead poisoning, and the use of the iodide of potassium and strychnia; we shall come to regard the action of the heart as no mean guide in the administration of many remedies. As we have recently had occasion to remark in these pages, allowing a certain excess to compensate for the embarrassed circulation in organic enlargement, *the impulse is the true pulse of the heart*, showing by its force or weakness, when either depletion, sedatives, or tonics are necessary.\*

To disprove or confirm these views respecting the importance of the cardiac impulse, the writer was induced, some time since, to undertake a series of examinations of the heart promiscuously in all forms of disease among the throng of patients at a large Dispensary. Many interesting facts presented. We soon found that house painters and others with either *paralysis* or great *muscular debility*, from lead poisoning, had uniformly a more or less weakened impulse of the heart, and generally on going up stairs complained of some faintness and cardiac distress. In some instances, too, there were fear of sudden death, nocturnal syncope, night-mare, or oppressive dreams, like those so common in organic disease of the heart. In the earlier stage, where lead colic only existed, from a considerable number of observations it seemed as if the heart had as yet escaped, and these symptoms were absent. And whether they are present uniformly in all cases of lead paralysis and debility, must be determined by more extended observation. Yet if they should be found to be confined mainly to the worst cases in private practice, or to the long neglected and badly nourished poor, prostrated by lead, and seeking medical aid in public institutions as a last resort—still, we trust, this discussion may be useful in showing a new phase of the affection worthy of careful attention. It is the sacred mission of our profession to study and toil for the poorest. In private practice, too, as will be seen, it may sometimes enable us to relieve terrible suspicions of incurable disease of the heart.

The discovery of the leaden streak of the gums by Dr. Burton, was a real boon to humanity. We cannot have too many new tests for so insidious and distressing a malady. When the heart, too, can complain, we should listen to its language. If a few years have given us the vastly improved treatment of Melsens, Golding Bird, and Tanquerel, so, too, every year finds new employment for this ductile poisonous metal. Lead is all around us in a hundred protean forms. We find

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\* *On Protracted Valvular Disease*, May, 1855.

it hidden in arts and manufactures innumerable. It moulds the toys of our childhood and wraps us in our coffins. It reddens sugar plums and sealed parchments, paints in varied hues the cottage and palace, blackens alike the fingers of the civilized printer and savage hunter, and whitens the Brussels lace on the snowy neck of the city belle.\* Sometimes it steals into sugar and tobacco, and literally spoils even our bread and butter. Deceptively it sweetens the choice wines of the epicure, or bubbles from natural wells, and from beer and soda fountains; and, through a thousand leaden arteries piercing the walls of our houses, it brings the Croton and Schuylkill to the very lips of the lovers of cold water. We seek not to exaggerate, but only faithfully to caution. While thousands exposed wonderfully escape, too many of the susceptible or careless suffer. But we cannot linger even to warn. Our cases must speak for themselves. We have vowed—as we always do—not to exercise what a good man once called the “gift of continuance.” The two first, it will be perceived, had previous organic disease from rheumatism.

*Case 1.—Mitral Regurgitation with Hypertrophy, from Rheumatism, aggravated by Lead Poisoning.—Great Improvement.*—J. S., aged 34, formerly seaman, latterly wafer-maker, muscular, but tottering in his gait and cachectic in his appearance, was admitted under my care at the New York Dispensary, June 7, 1854. After several attacks of acute rheumatism at sea, without any heart symptoms, he had worked latterly in a wafer and sealing-wax manufactory at New Rochelle, where, after being weakened by an attack of intermittent, he had been finally laid up with colic, from the fumes of heated lead used in the coloring matters. Returning to sea for his health, he again caught rheumatism, followed by dropsy, and had left the Dreadnought Hospital Ship, in the Thames, with a certificate of “Organic Disease of the Heart,” requiring light labor. Obligated to return to the more quiet wafer making, to fill his cup of misery, he had suffered five successive attacks of lead colic, the last of which was two weeks previous to his admission at the Dispensary.

*Condition.*—There were noted—the dusky, tawny lead jaundice of the skin, and brown encrusted teeth mentioned by Tanquerel; *purple streak of the gums*; pulse ninety-two, weak and small; respiration thirty, difficult; despondency; sense of impending dissolution; fear of sudden death; *faintness on exertion*; palpitation; *broad weak impulse of the heart*; harsh liquid mitral, regurgitant murmur with the first

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\* *Annales d'Hygiène.*

sound, *loudest over the apex*; diameter of precordial dull space, three and a-half inches; apex pointing four and a-half inches to the left of the centre of the sternum; liver enlarged below two inches; epigastrium tender; appetite feeble and variable; constipation; slight incipient paralysis of the limbs, affecting motion more than sensation, though accompanied with some numbness and wandering pains, and without the "drop wrists."

He was ordered to take, in an aqueous mixture, eight grains of the iodide of potassium, with four grains of the extract of taraxacum, a fluid dram of the tincture of bark, and ten drops of the tincture of hyoscyamus, in sweetened water, three times a-day, two hours after meals. This was continued with the greatest benefit for three months, when it was changed to five drops of the strong tincture of *nux vomica* alone, taken in water, three times a-day, for three months longer. The effects were remarkable. His jaundiced face became clear and ruddy; the respirations fell off from 30 to 18; the numbness, faintness, and lead streak were gone; the faltering heart, though still enlarged, grew firmer in its impulse; the liver, with its hypertrophy remaining, ceased to trouble; appetite returned, and he gained ten pounds in weight. But the most curious changes were those of the mitral murmur. Sometimes it was distinct and liquid, like the sound of a muffled syringe; then it grew faint and musical, like the low mewing of an exhausted kitten; later still, it intermitted or returned with quiet or excitement, till, during the last few months it ceased entirely. Our patient, previously incapacitated, returned to regular labor in a ship bakery, and, a few months after, was so restored as to engage as seaman in a trip to New Orleans, during which he was accidentally drowned.

*Case 2.—Slight Cardiac Hypertrophy and Mitral Murmur from Rheumatism.—Lead Poisoning.—Improved by Iodide of Potassium.*—F. K. P., peddler, aged 36, muscular, but pale, was admitted as a district patient at the New York Dispensary, December 15th, 1855; with excruciating pain in the abdomen and lumbar region; face anxious; pulse 90, hard; tongue furred; gums with a broad violet streak; teeth brown-encrusted; obstinate constipation; nausea; urine scanty, and painfully voided; palpitation; cardiac oppression; strong impulse of the heart; dull space a little enlarged, and a faint regurgitant mitral murmur at the apex. There was no paralysis. Within the previous eleven years he had suffered three attacks of severe rheumatism, since the first of which he had labored at times under palpitation and some distress at the heart. For some time previous he drank spirits pretty freely. He had known of no exposure to lead, except,

possibly, from a habit of rising very early, and getting the first draught of Croton water from the long lead pipe of a high tenant-house; and occasional drinks of soda-water from the street fountains. Our diagnosis was lead colic, added to slight organic disease of the heart. Two worthy, intelligent physicians, previously called, quite as sincerely pronounced the gums simply anemic; laid much stress on the former rheumatic and cardiac disease, and thought the pain, nausea, and dysuria showed the present difficulty to depend simply on inflammation of the kidneys.

Being left alone in charge, with some misgivings that we might be mistaken, we were at length gratified with seeing prompt relief from free purging with croton oil and calomel, followed by anodynes; and the generous admission of one of the former attendants, that we were right in our suspicions of lead. The patient was left much prostrated, and unable to walk out for many days. During the succeeding few weeks, he labored under great muscular weakness. Under the use of ten grains of the iodide of potassium, in solution, with five drops of the tincture of nux vomica, and a minute dose of hyoscyamus, three times a-day, he at last rapidly improved. By a curious coincidence, the mitral murmur was inaudible the two last examinations. It may also be remarked, that the irritation of pain in lead colic, as well as the previous hypertrophy, rendered the impulse more firm. When last seen, the case was still mending under treatment.

Although functional murmurs are notoriously changeable and transient, yet the permanent cessation of a true chronic organic murmur long established, with a corresponding improvement of the patient, is a very rare event. It is true that when the heart, so to speak, gives way, and becomes irregular and confused in its action, in the last stage of fatal cases, the murmur will often be masked or lost. And, in more favorable conditions, it will frequently cease with the repose of the patient, to be roused again with excitement. In a few examples, however, nature, in her freaks seems to have, to a certain extent, repaired and refitted even a spoiled valve, and silenced or changed its murmur.

Such cases are recorded by Dr. O'Ferrall, in the *Dublin Quarterly Journal of Medical Science*, and by M. Forget, in his recent valuable treatise.\* The first of the above instances happening to be the only one that we had met at the time, was watched carefully for months, and was undoubtedly a fair specimen. The second, for a won-

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\* *Précis Théorique et Pratique des Maladies du Cœur.*

der, may possibly prove so. We may never meet another. We know, indeed, that, especially in delicate females, a heart may be stretched and weakened by simple dilatation till its valves are mechanically unfitted, and regurgitant murmurs occur. And it would be easy to speculate on the possibility of lead producing a certain relaxed, paralyzed or atonic condition of the muscular walls of the heart, or its columnæ carneæ, so that the valves temporarily unfitted, would leak, and afterwards, by the iodide of potassium and tonics, the heart might recover its natural tone, and the valves be readjusted. But in neither case above are we sure that the murmurs did not exist long before the lead affection. Besides, when dealing with health and life, we dare not speculate on such small capital. We love the truth, and the truth only, too dearly to venture to build a theory on so few facts. So we leave the reader to draw his own inferences in regard to the changes of valvular murmurs. In other respects, however, we think that, considering fairly the future cases where lead has deranged hearts previously sound, and where, upon one of the principles laid down by Marshall Hall, the result of treatment has aided diagnosis, analogy will justify two practical conclusions,—first, *that the poison of lead may seriously aggravate previous organic disease of the heart*; and second, *that such cases are likely to be especially benefitted by the iodide of potassium, strychnia, electricity, and other appropriate remedies for the depressing influence of lead.*

While studying the cardiac impulse, the writer happened to contribute, in a paper in this journal, the following illustration:—\*

*Case 3.—Debility of the Heart from Lead Poisoning.—Recovery.*—A laborer, aged 34, muscular, having worked in a white-lead manufactory a few weeks, was admitted under our care in the New York Dispensary, early in October last, for palpitation, uneasiness, and faintness on exertion, with precordial distress, and *soft tapping impulse of the heart*, otherwise normal, with the *violet lead streak* of the gums, trembling weakness and numbness of the limbs, pulse 74, *weak*; loss of appetite, nausea, tenderness of the epigastrium, and constipation. He never had rheumatism; used no tobacco; indulged in no excess. Partially on the plan of M. Melsens in lead disease, he was ordered ten grains of the iodide of potassium in solution, with a few drops of the tincture of nux vomica three times a-day; and subsequently these were aided by a blister, the size of a cent, over the heart, dressed with

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\* On Functional and Sympathetic Affections of the Heart, Jan., 1854.

belladonna ointment, with the effect of gradually relieving all the symptoms; and he left convalescent at the end of a month.

This case, and those succeeding, seem to prove that, in addition to complicating previous organic disease, the poison of lead may produce special morbid manifestations of its own, in a heart at first perfectly sound.

In the very great difficulty of retaining long enough for cure, out-patients among the necessitous and changing poor, the three following cases, which were treated for a few days only, on the same plan with those we have mentioned, are given merely to illustrate cardiac lead symptoms.

*Case 4.—Lead Paralysis.—Feeble Heart.—Faintness on Exertion.*—W. T., aged 39, shoemaker, of medium development, was admitted as an out-patient in the New York Dispensary, under our care, January 17, 1855, with partial paralysis of both forearms. He knew of no exposure to lead except drinking the Croton water conveyed by lead pipes in a high tenant house. Six months previous, at Staten Island, he had caught a quotidian intermittent, which was finally cured at Bellevue Hospital. Since then, for several months he had complained of muscular pains, trembling, and numbness of the limbs.

*Condition.*—We noted : lead streak of the gums ; loss of motion, affecting the flexors as well as the extensors of the forearm, so as to prevent grasping ; indigestion ; constipation ; pulse 64, weak ; inability to mount stairs without faintness ; cardiac oppression ; palpitation, and a feeble tapping impulse of the heart.

*Case 5.—Drop Wrists from Lead.—Tendency to Syncope.—Weak Cardiac Impulse.*—M. S., aged 22, house painter, slight in figure, much emaciated and pale, was admitted under our care, at the New York Dispensary, August 25, 1853. He had suffered repeatedly with painters' colic during his apprenticeship. Three years since he had first felt numbness and loss of power in the forearms, for which he was treated with sulphur baths and galvanism for some time, with considerable improvement. Returning to the house-painting, he was finally quite disabled by more complete paralysis of both forearms and hands.

On examination, we found lead streak of the gums ; tongue clean ; appetite feeble ; urine high-colored ; some arthralgia, aggravated by damp weather ; hands drooping and powerless ; faintness on exertion ; sinking palpitation ; and weak impulse of the heart.

*Case 6.—Debility of the Heart from Lead.—Gentle Tapping Impulse.—No Faintness on Exertion.*—B. K., laborer, aged 32,

broad and muscular, having worked in a white lead factory from August to January, and suffered at length severe bronchitis from exposure was attacked immediately after with wandering pains and great muscular weakness, for which he was admitted at the New York Dispensary, March 15, 1854.

There were noted : distinct lead streak of the gums ; tongue slightly furred ; appetite feeble ; flatulence ; severe headache every afternoon ; pulse 60, compressible ; *weak velvety impulse of the heart*, but no special faintness on going up stairs.

In our fear of overstating this matter, we have rejected several slighter cases where there were simply a lead streak of the gums, without either paralysis or serious muscular debility ; but in which, with severe dyspeptic symptoms, constipation, and some prostration, there has been, as we have imagined, a slight shade of weakness in the impulse of the heart.

We may venture, too, in this connection to state a fact we have repeatedly verified in this series of observations, of much interest to the profession and public, in cities watered by lead pipes. Many cases in private practice, supposed to be ordinary dyspepsia, obstinate constipation, or bilious colic, are really *unsuspected mild examples of lead poisoning*. A highly intelligent professional friend suffered thus unconsciously for months, from drinking soda-water through lead pipes, in a warm summer, till, looking at his tongue one day, we discovered the lead streak of his gums. We remember prescribing for a "faint heart" in a "fair lady," with blue gums, who was "much debilitated," and who said she was engaged in a "store down town," which at last proved to be a type foundry. A pale young printer, at the New York Dispensary, incapacitated by indigestion and weakness for months, and, as he sorrowfully declared, "having spent all his money with the doctors,"—after showing "leaded" gums, and confessing also to spermorrhœa, wished a careful examination for the supposed "organic affection" of a *weak irritable heart*, occupying his entire sympathy.

In the following illustration, too, but for the suspicious gums, and avocation, it would have been easy to have overlooked the secret cause of suffering, in attention to the alleged "disease of the heart."

*Case 7.—Cardiac Distress.—Prostration from Lead.—Night Faintings.—Recovery.*—Mr. S., master house painter, aged 29, tall, muscular and temperate, having been under our care in private practice for an attack of incipient cholera during the late epidemic, and having suffered from debility and dyspepsia ever since, applied again a few

months since for an examination of his chest, insisting that "something was the matter with his heart."

Latterly he had grown very desponding, with a sense of utter weakness and cardiac oppression; faltering palpitation; variable appetite; belching flatulence; and turns of nausea, and severe headache. But the most alarming of all were certain paroxysms of fainting during sleep, detected by his watchful wife, which were more protracted and death-like than ordinary night-mare, and accompanied by ghastly paleness and coldness. They required mustard poultices and stimulants for several minutes to rouse him.

On examination, there were found slight lead streak of the gums; pulse 64; weak tapping impulse of the heart, else normal; no positive paralysis, but great muscular debility, producing a sense of constant weariness and prostration. Under the use of free doses of the iodide of potassium and minute proportions of *nux vomica*, as in the previous cases, after several returns of the fainting, he slowly recovered.

Early in these investigations we communicated our views of the effects of lead on the heart to our late worthy colleague, Dr. Elisha Harris, now Chief Physician to the Marine Hospital, Staten Island. He obligingly consented to consider the matter and furnish us the result. The testimony of so intelligent and careful an observer in the following two cases, kindly contributed by him, is specially valued by us as corroborating opinions on the depressing influence of lead on the heart, in which, in the natural enthusiasm of special study, we feared we might be too sanguine. In slowness of the pulse, cardiac oppression, great despondency, and tendency to fainting, the first case resembles that just recorded.

*Case 8.—Prostration from Lead.—Heart Enfeebled.—Recovery.—Relapse.—Great Improvement.*—We copy from Dr. H.'s manuscript notes:—Mr. C., house painter, æt. 48, a man of sound constitution and good habits, began to suffer from lead arthralgia about five years ago. Two years since he applied for medical advice, and he was then suffering from very severe pains in the joints, which prevented his rest at night, and partially disabled him from labor. He also suffered much from headache, and had periods of great prostration, during which, syncope usually occurred with more or less frequency.

The pulse was about fifty, exceedingly feeble; and the cardiac sounds were faint, while the heart's impulse was very feeble.

The characteristic mark of lead poisoning, the purple discoloration of the gums, was broadly developed, and the flexors of the upper extremities had become enfeebled, though not paralyzed.



Investigating by exclusion, no other cause than the lead poisoning could be found to account for the patient's enfeebled condition. Treatment:

R. Potass. Iodid. gr. viij.  
Tinct. Gentian comp. 3ij.  
Tinct. Nucis Vomicae, gtt. vj.  
M. To be taken four times a-day.

Under this treatment he rapidly improved, and after the first week, he rested perfectly at night, and suffered no more arthralgia. His heart regained its normal vigor and healthy impulse after about two months. He considered himself perfectly well at the time, and took no more medicine.

Continuing his employment as house-painter, his old difficulties returned during the last winter, and two weeks since he applied for advice again, when I found the heart nearly as feeble as at the time of my first examination, and I learned that he had for some time past suffered greatly from a sense of impending dissolution, which was most oppressive at night. His lead arthralgia had become more severe than ever previously. The heart beat more rapidly than before, and quite as feebly. He has been of the opinion that his life would suddenly terminate. His attacks of syncope have not been as frequent as formerly, but his sense of prostration was even more oppressive.

The treatment has been the same as previously. At the end of the first week he has been able to sleep soundly all night. His heart beats with a stronger impulse. He expresses himself as feeling a "new man."

*Case 9.—Lead Paralysis.—Weak Heart.—Recovery.*—M. M., aged 21, unmarried, of medium development, was kindly referred to me for examination, by Dr. H., Dec. 30, 1854. Three years since, she commenced working in a card manufactory in which she was obliged to use the carbonate of lead in the process of enameling or glazing. Eight months after, she was attacked with lead colic which lasted for four days, and she was finally relieved at the New York Dispensary, under the care of Dr. H., and by his advice she changed her employment. One year after, she returned to the card-making, at which she continued until four months later, when she was attacked with lead paralysis of the extensors of the right forearm or the "drop wrist," accompanied by general numbness; muscular wandering pains; lead streak of the gums; encrusted blackened teeth; loss of appetite;

palpitation; remarkably feeble impulse of the heart, and faintness under the least excitement or exertion.

Under the use of eight grains of the iodide of potassium in solution with a few drops of the tincture of *nux vomica* three times a-day;—with cessation from her employment—in the course of the next six months she almost entirely recovered; so that at the time of my examination, the paralysis was quite gone; the heart almost entirely recovered in its tone; and the patient felt relieved from the necessity of further treatment.

In the following case, still under the care of the writer, are several points of special interest. The paralysis of the muscles of both forearms was the most complete we have ever seen. Both the flexors and extensors were entirely powerless, so that the patient could not grasp or lift anything with the hands; but merely brought the arms together as if they had been amputated at the wrist. We shall not easily forget the imploring manner in which the patient, a stirring mother of six children, at her first visit held out her dangling, cold, palsied hands for relief. Yet the disease, for some obscure cause, was exceedingly local. Her face had nothing of the lead pallor, but was still blooming. The heart was the least affected of any in the cases related.

*Case 10.—Lead Palsy.—Drop Wrists.—Dyspepsia.—Amenorrhœa.—Heart slightly enfeebled.—Recovering.*—Mrs. J., boarding-house keeper, æt. 37, originally stout, and still retaining a ruddy English complexion, was admitted to the New York Dispensary under our care, Dec. 13th, 1855, with complete loss of motion in the muscles of both forearms.

Some time since, her husband had kept a porter-house, and then, and since, she had taken a glass of beer, drawn through lead pipes, two or three times a-week, when faint from over-exertion. Some of the customers were careful not to drink the first draught in the morning, but she was not very particular herself. Latterly, she had kept boarders in the upper part of a high house supplied with croton water through lead pipes. She had never before lost a day with sickness, except during her confinements with her children. Eight months previous the menses ceased, and two months after this event, she complained of pain and numbness in the ankles, with difficulty in walking. Four months ago, she began to be affected with loss of appetite, nausea, and occasional vomiting, which has continued ever since, and which has caused her the loss of thirty-five pounds in flesh. She never had lead colic. Five weeks previous to admission, palsy of her right hand and wrist

commenced, and one week later, the left hand yielded. She wept with despondency, and complained of being altogether in a deplorably helpless state, with the care of a large family, and unable even to feed herself.

*Condition.*—There were noted, hands drooping, powerless, and cold; slight lead streak of the gums of three lower teeth; pulse 96, feeble; no faintness on going moderately up stairs; heart's impulse slightly diminished, but not enough to be noticed except by special attention; nausea and vomiting; menses suppressed; troubled dreams and night-mare.

The case was so urgent that we determined to try all the usual remedies at once. She was ordered to take ten grains of the iodide of potassium in solution with five drops of the strong tincture of nuxvomica, for weeks, three times a-day; to use once a-week a full laxative of powdered sulphur, rhubarb, and ginger; and, every four or five days, to take, on going to bed, a warm sulphur bath for twenty minutes, in the proportion of one ounce of the sulphuret of potassium to six gallons of water, soaking the arms and hands much longer than the rest of the body; elastic bands composed of old suspenders were attached above the elbow, and to the drooping hands for part of the day, so as to rest the stretched, palsied muscles; the flesh-brush was freely used, and lastly, through the kind offices of my friend Dr. Strong, of Brooklyn, she had the intelligent and careful application of electricity every second day.

It was in fact a combined attack outside, inside, and every side, and in no infinitesimal doses. The prompt good effects were surprising. In a few days the stomach grew quiet, and the appetite returned in full force; shortly after, the menses reappeared; and later still the distressing coldness ceased, and strength began gradually to return to the palsied hands, so that she could take her food, and use them quite freely. At the time of finishing our report, six weeks from the commencement of treatment, under the continued use of all the remedies mentioned, she is evidently rapidly recovering.

For convenience of reference, we have prepared the following brief table of the above cases, exhibiting at a glance in parallel columns, the lead and heart symptoms, and some other points of interest. Numbers 1 and 2, marked by an asterisk in the first column, had previous organic disease of the heart from rheumatism, and were simply aggravated by lead. All the rest were free from any affection of the heart until the lead poisoning. Numbers 8, and 9, were those kindly furnished by Dr. Harris; while the remaining eight were under our own observation.

*A Table shewing the Effects of Lead on the Heart in Ten Cases of Partial Paralysis or General Muscular Debility.*

NO.	SEX.	AGE.	CONDITION, CAUSES.	OTHER LEAD SYMPTOMS.	HEART SYMPTOMS.	TREATMENT.	RESULTS.
1	M.	34	WAFER-MAKER.—From lead in coloring matters; after prostration from intermittent.	Waxy jaundice; purple gums; brown encrusted teeth; slight incipient paralysis of limbs; great prostration, dyspepsia; constipation.	Signs of old rheumatic hypertrophy with mitral regurgitation and consequent enlarged liver; small weak pulse; feeble impulse; palpitation; faintness on exertion; fear of sudden death.	Taraxacum; bark; iodide of potassium; nux vomica.	Greatly improved.
2	M.	36	PEDDLER.—From drinking soda and Croton water from lead pipes; after some disipation.	Lead colic; pale waxy skin; purple gums; brown encrusted teeth; general muscular debility; indigestion; nausea; constipation; severe headaches.	Signs of slight old rheumatic hypertrophy, with faint mitral regurgitation; faintness on exertion; cardiac distress; palpitation; morbid fear of death.	Purging with croton oil; anodynes; afterwards, iodide of potassium and nux vomica.	Rapidly improving.
3	M.	34	LABORER.—From working in a white lead factory.	Violet streak of gums; incipient paralysis of limbs; nausea; tender epigastrum; indigestion; constipation.	Sinking palpitation; soft tapping impulse; dyspnoea; faintness on going up stairs.	Counter irritation; iodide of potassium; nux vomica; belladonna.	Left convalescent.
4	M.	39	SHOEMAKER.—From Croton water through long lead pipes after intermittent.	Partial paralysis of the muscles of the forearm; lead streak of the gums; indigestion; constipation.	Faintness on going up stairs; sinking palpitation; feeble impulse; pulse 64, weak.	Iodide of potassium and tonics temporarily.	Left hastily.
5	M.	22	HOUSE-PAINTER.—After repeated prostration by lead colic.	Complete paralysis of both forearms and hands; lead streak of gums; dyspepsia; arthralgia; much emaciation.	Faintness on exertion; weak impulse; sinking palpitation.	Sulphur baths and galvanism at first with relief. In the relapse iodide of potassium and nux vomica temporarily.	Discontinued attendance.
6	M.	32	LABORER.—From working in a white lead factory; after severe bronchitis.	General muscular weakness; lead streak of gums; dyspepsia; severe headaches; wandering pains.	Weak velvety impulse; pulse 60, and soft.	For a short time with the iodide of potassium and tonics.	Left early.
7	M.	29	HOUSE-PAINTER.—After prostration by cholera.	Lead streak of the gums; general muscular weakness; nausea; dyspepsia.	Sinking palpitation; cardiac oppression; pulse 64, weak; alarming faintings at night; feeble impulse; fear of sudden death. Night-mare.	Iodide of potassium; nux vomica.	Recovered.
8	M.	43	HOUSE-PAINTER.—Enfeebled by long and severe arthralgia.	Purple gums; muscular debility, especially of the forearms; lead arthralgia.	Alarming syncope; fear of sudden death; feeble sounds and impulse; pulse 50.	Iodide of potassium; nux vomica; gentian.	Recovered.
9	F.	21	Employed glazing cards, with white lead; lead colic.	Paralysis of right forearm; lead streak of gums; encrusted, blackened teeth; wandering pains; general numbness.	Feeble impulse; sinking palpitation; faintness on exertion.	Iodide of potassium; nux vomica.	Recovered.
10	F.	37	BOARDING-HOUSEKEEPER.—From beer and Croton water through lead pipes.	Paralysis of both forearms and hands; lead streak of the gums; vomiting; dyspepsia; arthralgia. Lost 36 lbs.	Slightly enfeebled impulse; weak pulse; great dependency. Night-mare.	Sulphur baths and laxatives; iodide of potassium; nux vomica; electricity.	Rapidly recovering.

Very briefly, we may, in conclusion, notice a few of the points suggested, under appropriate heads.

*Symptoms.*—Commencing with the most frequent, and their intimate companions, we may rapidly enumerate, italicising the most important. In the ten cases, *violet or purple streak of the gums*, the most constant and delicate test of lead contamination, either in disease or apparent health—was found in all; its occasional associate, blackened, encrusted teeth, three times; *dyspepsia*, nine; its frequent concomitants, nausea and constipation, each three; *partial paralysis*, seven; and general muscular debility, three; \* *pains* in the joints, muscles, or head, seven; emaciation moderate, and not of the skinny cadaverous kind sometimes seen, twice; and lastly, lead jaundice of the regular dirty, tawny hue, and characteristic of the free absorption of lead by the lungs or stomach, once.

*The Heart symptoms*, as subjects of our special study, invite more attention.

The *weakened impulse* of the heart, characteristic as we have stated of either lead paralysis, or debility, was present more or less, nine times out of the ten. Just as with nice shades of difference in the pulse, or sounds of the heart, it requires a little close attention and education of our senses to discriminate. A superficial or inexperienced observer might fail in its detection. We must seize a tranquil moment in the right position. The sight, hearing, and touch, must be delicately exercised. Variations in the visible movement, in rapidity, volume, sound, and strength, between morbidly slow or rapid *feeble tapping*, and the healthy *firm striking* of the heart must be carefully appreciated. Where lead colic prevails uncomplicated, with either paralysis or marked debility, the stimulus of pain seems generally to cause a *firm hard impulse*.

*Faintness on Exertion*, requires usually pointed questioning. The patient commonly complains of so many bad feelings, that he forgets this, unless made the object of his attention. We generally ask the easily understood question, if there is unusual faintness or op-

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\* The following numbers represent the relative frequency of lead paralysis in different parts of the body, in a table of 102 cases, furnished by Tanquerel: general paralysis of upper extremities, 5; paralysis of shoulder, 7; do. of the arm, 1; arm, forearm, wrist, and fingers, 4; forearm, wrist, and fingers 14; wrist and fingers, 26; wrist, 10; fingers, 30; vocal muscles, (aphonia, 16; stammering, 15;) 31; intercostals, 2; dorsal, pectoral, and sterno-mastoid, 1; general paralysis of lower extremities, 1; paralysis of thigh, 5; of thigh, leg, feet, and toes, 2; foot and toes, 3; foot, 2; toes, 2.

pression on going up stairs. It was recorded in seven of the above ten cases.

*Syncope* or *actual fainting* found in two of our cases, has been aptly termed by Bouillaud, "momentary paralysis" of the heart.\* From the frequency of sudden death in organic cardiac affections, the occurrence of a protracted fainting fit with distress at the heart, naturally excites much alarm. In one case above, it occurred during sleep.

*Palpitation* so far as the patient is concerned, may be defined to be a painful sense of the action of the heart. And this may be from excited sensibility, mechanical enlargement, overaction, or even want of action. When the heart is depressed, or, so to speak, slightly paralyzed by lead, the sensation of faltering or fluttering naturally excites the attention of the sufferer, and if intelligent, he may possibly describe his feelings by the term "sinking palpitation." It was noted eight times out of ten. Cardiac oppression and slight dyspnœa, are generally associated with palpitation, though often not specially mentioned.

*Night-Mare and Troubled Dreams*, depending probably on the same causes during sleep, occurred twice.

*Great Despondency and Fear of Sudden Death*, noticed in three of the above cases, are natural characteristics of the more oppressive forms of heart disease. Contrasted with the buoyant hope of consumptives, the depression of cardiac affections is peculiar. When long existing, the sufferers are apt to become prematurely careworn, or gray.

*The Pulse*, as Tanquerel has observed, in lead paralysis, is almost uniformly soft, compressible, and slow. It usually ranges from 50 to 65, showing that the heart which propels it is feeble. In five instances above, the pulse is mentioned as "weak." On the contrary, the stimulus, of pain, generally renders the pulse in simple lead colic, like the heart's impulse, both hard and full.

*Causes*.—This term is of course used in a liberal sense, referring to any accessory circumstances or agencies. Anything that prostrates the system, seems to act as a predisposing cause. An intelligent superintendent of white-lead works in Brooklyn, informed the writer, that a few days of hard drinking with any of the workmen, were sure to be followed by colic or paralysis. It is doubtless thus, that successive shocks of lead colic are often finally succeeded by palsy. In two of the cases given, there was just previously intermittent fever; in

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\* *Maladies du Cœur.*

one each bronchitis, cholera, protracted lead colic, arthralgia, or intemperance.

As conditions acting as exciting causes, in our list seven were workers in some form of lead, and three were affected from drinking Croton water, beer, or soda-water, through lead pipes.

We have before alluded, in passing, to many known or unsuspected methods of exposure to lead. In illustration, we may simply add the following list from the great work of Tanquerel des Planches: \* "Of 101 subjects of lead paralysis, there were manufacturers of white lead, 31; do. of minium, 6; painters of buildings, 22; do. of carriages, 4; do. ornamental, 5; grinders of colors, 6; manufacturers of German cards, 1; potters, 5; refiners, 3; plumbers, 3; type founders, 4; printers, 3; lapidaries, 3; cutters of crystals, 1; manufacturers of acetate of lead, 2; do. sulphate of lead, 1; do. chromate of lead, 1."

*Pathology.*—Disease is commonly but the process of dying, arrested in recovery or consummated in death. In the celebrated treatise of Bichat, there are three modes of dissolution enumerated; death by the brain, lungs, or heart; or, by coma, asphixia, or asthenia.† Lead may reach the heart through various channels. Some have supposed lead colic to be simply neuralgia of the great sympathetic nerves. If so, why may not the opposite or anasthetic condition prevail in paralysis, affecting both nutrition and the circulation by producing both constipation and indigestion as well as weakening of the heart? We may, indeed, account for the heart symptoms in two ways: either by supposing it involved in the general torpor of the ganglionic or spinal system; or, as Christison believes, by assuming that lead has a specific effect on the heart itself, tending to death by asthenia. Facts respecting other poisons, and even lead itself, strongly favor the latter theory.

Sir Benjamin Brodie, in some experiments upon animals, related in the Philosophical Transactions, states that on injecting into the body either the oil of tobacco or the upas antiar, there were great faintness and sinking of the pulse, and on examination immediately after death, he found the heart distended with florid blood, paralyzed, and insensible to galvanism though the rest of the muscular system could be stimulated by it to contraction. The woorara poison of the South American Indians is said to produce like effects. Though primarily acting as an irritant to the alimentary canal, arsenic is also classed by authorities, among the agents that kill by paralyzing the heart. A friend of ours in Brooklyn, fond of researches in natural science, happened,

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\* *Maladies de Plomb.*† *Sur la Vie et sur la Mort.*

under the orders of his physician, to be taking Fowler's Arsenical Solution. At length he felt his heart beating very faintly, and became greatly prostrated. On repeatedly examining his own pulse, he found it soft and weak, and he could only make fifty beats in a minute. These are just the symptoms we have ascribed to lead in paralysis. We know, too, by daily practice, that digitalis acts mainly on the heart and circulation.

We are not left, however, to mere conjecture from analogy. In experiments detailed in the *Edinburgh Medical and Surgical Journal*, Mr. Blake found that a dram of the acetate of lead taken into the stomach of a dog, suddenly arrested the heart's action, and that the small quantity of three grains injected into the jugular vein, diminished the force of the heart.

Foidèrè,\* in the post-mortem examination of a patient with lead disease, describes the heart as presenting a shrunken or "withered" appearance.

Again, setting aside the dispute about "natural lead," the chemical researches of Orfila, Tiedeman, Gmelin, Devergie, and Guibort, have detected in subjects who have died of lead disease, an unusual amount of the poisonous metal in the brain muscles, thoracic and abdominal viscera, and especially in the blood.

Now, as every-day practice proves, even when medicinally applied to the skin, lead is a sedative. Let its poison course along the lining membrane of the arteries and veins, and thus mingling with the blood, its vital stimulant, bathe constantly the central organ of circulation, and we can easily see why the heart should especially feel its paralyzing influence.

*Treatment.*—The chief remedies to counteract the depressing effects of lead may be divided into two classes. The first may be termed *disinfectants*, such as the iodide of potassium, and the various preparations of sulphur; and these act by eliminating the poison from the system, and thus remove causes.

The second class—if we may coin a word easily understood—may be designated *Anti-paralytics*, such as strychnia and electricity. These restore tone to the injured organs, and thus powerfully relieve effects.

*Iodide of Potassium.*—The "disinfectant" properties of this powerful antidote to the slow poison of lead and mercury have been mainly brought to light through the recent researches of M. Melsens of Paris.

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\* *Médecine Légale.*



In an article inserted in this Journal some time since, we had occasion to publish some illustrative cases with a brief review of the original memoir of this indefatigable observer.\* M. Melsens, by well-recognized facts, established two propositions: first, that *lead and mercury combine with the tissues of the body, and remain there for years*; and second, that *the Iodide of Potassium acts as a powerful solvent to the compounds of both lead and mercury thus fixed in the system, disengaging them and draining them off, so to speak, by the urine through the kidneys*. And he proved these principles by an array of chemical and clinical experiments. He took a large quantity of the iodide of potassium himself, and discovered it quickly and almost exclusively in his urine; he gave it to a patient with mercurial palsy, and, on analyzing the urine, found the iodide of mercury; he paralyzed and emaciated several dogs till nearly dead, by feeding them with the sulphate or carbonate of lead, and then restored them rapidly to health and flesh with the iodide of potassium; and finally he cured or greatly relieved, with the same remedy, three patients paralyzed by lead, and five by mercury. Experiments by others have since detected the iodide of lead in the urine of patients under this treatment for lead paralysis. Though M. Melsens gave the iodide of potassium without inconvenience in large doses for weeks and months, commencing with half a dram and running up to a dram and a-half daily,—yet with this somewhat expensive article among the poor, we have succeeded very well in the more moderate dose of ten grains three times a-day for a few weeks or months. It is more cleanly and convenient, and less expensive, than sulphur baths. And if reduced to a single remedy we believe none so efficacious.

*Sulphur Baths.*—Sulphur in every form is an antidote to lead. Sulphuric acid internally, the sulphates of magnesia and soda as purgatives, and sulphur as a laxative, have all been used. Natural sulphur springs have long been resorted to for bathing purposes, with great benefit in lead affections. Our own of Virginia are excellent. Fortunately for the laboring classes, we have an admirable substitute highly recommended by the Tanquerel, Dr. Alderson, and the best authorities. From four to six ounces of the sulphuret of potassium—an ordinary cheap article of commerce—may be dissolved in sufficient tepid water to make a comfortable bath for an adult. The patient may remain in this from twenty minutes to an hour, not using it so frequently as to produce too much debility, and sustaining the muscular strength in the

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\* *Cases testing the Iodide of Potassium as an Antidote, etc.*, September, 1853.

meantime by strychnia, electricity or other agents. In many cases a brown coating of the sulphuret of lead is formed on the skin, so that the poisonous metal is literally *soaked* out of the system. These baths in moderation are generally very grateful to the patient.

*Antiparalytics.*—In emergency we have adopted this term, to designate a subdivision of the class of tonics, noted for their special power in relieving paralysis; just as in medical language we have already accepted the terms antispasmodics or antiperiodics from their power in arresting certain other symptoms of disease.

*Nux Vomica or Strychnia.*—The antiparalytic power of the vomica nut and its active principle strychnia, is too generally recognized to need much comment. Both, in large doses, are known to be powerful poisons, and both, in minute safe proportions, are valuable tonics. Linnæus long ago suggested nux vomica in dyspepsia. Alone or combined with small quantities of rhubarb or aloes, the extract or tincture of nux vomica, are valuable remedies in constipation. Both these symptoms prevail in lead disease. While the extract and tincture have appeared to us most useful in indigestion and constipation, the alkaloid strychnia is the most uniform in strength, and most reliable in the restoration of parts paralyzed. Yet all the preparations of nux vomica possess this power. On the moderate exhibition of strychnia, as we know, prickings and spasmodic twitchings, or slight convulsive movements of the limbs, occur, producing a faint imitation of the tetanus which some have termed *strychnism*.

These stimulating and vivifying effects seem at length to centre on the weak, or paralyzed muscles, and often happily end in cure.

Strychnia, it will be recollected, should be commenced cautiously, in doses of about one-twentieth of a grain in pill, or, what is more convenient, in solution of a grain to the ounce, of one part acetic acid, and three of water; and gradually increased to a quarter, or even half a grain three times a-day. Tanquerel, commenced with the sixth and ran up to even two grains, in the twenty-four hours, and with great success. Where preceded or combined with *disinfectant* treatment, we have never found more than half the first-mentioned proportions necessary. Sometimes it has been applied externally as an ointment, or to a blistered surface. In dispensary practice among a class of patients, where mistakes are more likely to occur, we have invariably preferred the milder and safer, though perhaps slower, tincture of nux vomica. Weber, found that on touching the heart of a dead frog with a solution of strychnia, he produced rigid *tonic contraction*. We

have long preferred it as a tonic to any other remedy in most forms of debility of the heart, and especially in that from lead.

*Electricity or Galvanism* has been used with more or less success as a remedy for paralysis for a century. Tanquerel, cured eight patients with lead palsy, who persevered with it, out of fifteen. Dr. Golding Bird, as stated in his valuable paper, in the *Guy's Hospital Reports*, was also very successful with this agent in paralytic cases. It is particularly suited to those that are slight and limited.

A gently stimulating current, not too violent, is commonly passed from the point of origin, to the termination of the particular nerves affected.

We may further remark, that we think no plan of treatment perfect, that does not combine, either together or in succession, both a disinfectant and an antiparalytic agent. The most convenient and efficacious we believe to be the iodide of potassium, and nux vomica, or strychnia. To these may be added good food, fresh air, and the flesh-brush. Sulphur baths and electricity are excellent auxiliaries if needed. To prevent a relapse, and, in fact, to prevent the disease altogether, nothing is so efficacious as that which a good house-wife once ranked next to the highest Christian virtue—*perfect cleanliness*. Free ventilation, frequent washing of the hands, face, and mouth, cleansing even the nails; wearing a compact linen suit washed twice a week, and changed on leaving work; a light cap to protect the hair; and an early laxative in slight constipation,—have protected the most exposed from an hour's suffering in many years.

In closing we may remark, that although some authors have, in passing, alluded to palpitation and slow pulse, as present in isolated cases of lead paralysis, yet, in yielding to the evidence of our senses, and believing feeble impulse of the heart, and faintness on exertion, to be prevailing characteristics, we are forced beyond the beaten track. We urge not our opinions on others, but only ask fair consideration of our cases. One well-established fact is worth a thousand visionary hypotheses. The vast domains of medicine are filled with the ruins of magnificent temples reared by master minds, of which time has swept away beautiful columns and arches of theories, while their facts, as solid foundations, forever remain.

The evidence gathered in this discussion tends, as we believe, more or less, to establish the following

#### CONCLUSIONS.

- 1.—That allowing a due excess of force to carry on the embarrassed

circulation in organic affections of the heart, it appears that certain symptoms in slow poisoning from lead, as well as in cardiac disease proper, typhus fever, and apparent death from catalepsy or other causes, all tend to prove that, as a rule, the *impulse* may be termed the *pulse of the heart*; and that, its more careful study than heretofore, may aid us in the general diagnosis and treatment of disease.

2.—That the symptoms of weakening of the heart in lead poisoning, are confined to cases of *partial paralysis, or general muscular debility*, accompanied usually by the purple streak of the gums, indigestion, constipation, pains in the head, muscles, or joints, and sometimes by lead jaundice; and that commencing and emphasizing with the most frequent, these heart symptoms from lead are:—*weakened or soft tapping impulse; faintness on unusual exertion; feeble and generally slow pulse; palpitation; cardiac uneasiness; and to these are occasionally added, great despondency or morbid fear of death; suspicions of organic disease of the heart, fainting fits, night-mare, or troubled dreams.*

3.—That these depressing heart symptoms are absent in the earlier and more acute stage of lead poisoning, known as "*lead colic*," when, on the contrary, the stimulus of pain generally renders the impulse of the heart and the pulse at the wrist more firm than natural.

4.—That skill in the detection of minute variations in the impulse of the heart, naturally requires a little careful attention and practice.

5.—That these debilitating effects of lead most commonly occur in hearts previously sound, but they sometimes complicate existing organic cardiac disease from rheumatism or other causes.

6.—That the agencies or causes of lead poisoning are very numerous, and often obscure; and that slighter cases supposed to be ordinary dyspepsia, constipation, debility, or bilious colic, are frequently undetected.

7.—That the above tests of the immediate influence of lead on the heart in disease, are further corroborated by experiments upon animals; showing that, more mildly and slowly, *lead*, like digitalis, oil of tobacco, upas antiar, the woorara, and some other poisons, tends specially to paralyze the central organ of the circulation, and, like these, ultimately to produce what Bichat termed "*Death by the heart.*"

8.—That the remedies for the paralyzing influence of lead may be divided into two classes:—*Disinfectants*, such as the iodide of potassium, and preparations of sulphur; and *Antiparalytics*, such as strychnia and electricity; that the best treatment combines these two elements; and that, on the whole, the most convenient and efficacious

are free doses of the iodide of potassium, and minute proportions of strychnia or nux vomica.

9.—That the above conclusions are founded mainly on the evidence of ten cases, principally among the badly-nourished and improvident poor finally resorting to public institutions; and they may possibly be somewhat modified in future by more extended observation in private and more favorable practice.

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ART. VII.—*Abstracts of the Proceedings, Papers, etc., of Medical Societies of New York.*

NEW YORK ACADEMY OF MEDICINE.—DR. WILLARD PARKER, *President*.  
THE NEW YORK ACADEMY OF MEDICINE, the largest and most influential medical society of this city, is now in the tenth year of its existence, having been organized January 6, 1847. At the period of its formation, the profession of this city was in a distracted state, having no common ground of meeting, and no representative organization. There was little harmony existing in the profession at large, and no unity of action, either in defense of the rights, privileges, and honor of medicine, or its cultivation as a science. At that period, also, the visionary theories of medical adventurers had spread widely, and were exerting a most pernicious influence upon this community. Scientific medicine was gradually losing that popular favor which it had always enjoyed, and to which its services in the cause of humanity justly entitled it. A sense of common danger drew the profession almost spontaneously together, and with great unanimity the organization of the Academy of Medicine was effected, which, it was designed, should “represent, if not embrace, the great mass of regular practitioners residing here.”

The object sought to be accomplished by this union of the profession is thus stated in the first draft of the constitution:—

*First.*—The cultivation and advancement of the science, by united exertions, for mutual improvement, and contributions to medical literature.

*Second.*—The promotion of the character, interests, and honor of the fraternity, by maintaining the union and harmony of the regular profession of the city, and its vicinity, and aiming to elevate the standard of medical education.

*Third.*—The separation of regular from irregular practitioners.

*Fourth.*—The association of the profession proper for purposes of mutual recognition and fellowship.

The designs of the founders of the Academy, as thus expressed, were of the most laudable character, and met with the hearty approbation of every scientific medical man. They aimed to give character to his profession, to facilitate his inquiries into medical science, and to render his professional associations agreeable and profitable. The State Medical Society recognized it as an organization destined to be of great service in the advancement of medical science, and recommended the formation of similar societies throughout the State.

In 1851 the Academy was incorporated by the State Legislature, and thereafter assumed a more commanding position. The most considerable change, however, was effected in its internal arrangement, and that consisted of a division of its members into sections, a plan which went into operation with the commencement of last year. These sections embrace the six grand departments of medicine, as follows:—  
I.—*Anatomy and Physiology.* II.—*Surgery and Surgical Pathology.* III.—*Theory and Practice, and Medical Pathology.* IV.—*Materia Medica and Botany.* V.—*Obstetrics, and Diseases of Women and Children.* VI.—*Chemistry and Pharmacy.* VII.—*Public Health and Legal Medicine.* These sections select their own officers, and adopt their own by-laws; they are required to meet at least once a month, and no change of members from one section to another is allowed without the consent of the Academy. The following general rules govern the sections:—

1.—All papers and subjects referred by the Academy to the respective sections, shall be considered and discussed by these sections, and a report thereon made to the Academy.

2.—Each section shall recommend a subject for discussion before the Academy at least once every six months, and appoint a member to open the discussion.

3.—All original paper shall be first read before the Academy.

4.—Each section shall appoint annually two or more of its members to read an original paper before the Academy.

5.—A brief abstract of the cases verbally reported in the sections may be made to the Academy.\*

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\* The division of the Academy into sections was principally due to Dr. J. P. BATCHELDER, and it was his design that each section should be farther divided into sub-sections. The following are his views:—"It was suggested in the committee having this matter in charge, that the several sections should be divided, according to their own views, into sub-sections; that in making this division, the members composing each section would arrange themselves in the several sub-sections, according to the views they might entertain of their own tastes, talents, or tact; and that when this arrangement had been completed,

This division of the Academy into sections is destined to operate in the most salutary manner. The individual section becomes an active working society, where each member shares the advantage of discussion, and the labor and responsibility of its routine of business.

The Academy has now nearly passed its first decade, and a glance at its past history and present position affords the most cheering evidence of a prosperous future. It has triumphed over the obstacles which always retard the progress and embarrass the working of such organizations in the first years of their existence ; it has firmly united all ranks of the profession in their efforts to raise the standard of professional respectability in this community, and now stands the acknowledged representative association of the regular profession of New York City. It now numbers upwards of two hundred and fifty resident members, and at no period of its history has it had as many applications for membership as the present. It is entitled to representation in the State Medical Society ; and sends to the American Medical Association seventeen delegates.

Such is, briefly, the past history and present position of the New York Academy of Medicine. The influence which it is hereafter to exert upon the profession in this city, will, we believe, be of the most powerful and salutary character. Embracing a large portion of the regularly educated practitioners, and having a stringent, yet liberal,

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distinct topics would be assigned by the sections to the sub-sections, and by these, perhaps, to particular individuals for their special or personal investigation ; or that each member would, if he chose, select and handle such subjects as he would best like to investigate, be most interested in, or most likely to distinguish himself ; that the discussions which would come up in the sub-sections and the previous individual examinations would not only familiarize members with subjects thus examined and discussed, but initiate them into the art and habit of close and rigid investigation ; and furthermore, that matters more difficult and abstruse would give rise to written disquisitions and essays, which might go to make up a volume of transactions. In this way each fellow will increase his own stock of knowledge, and shed light on the pathway of his associates, and the Academy be likely to get papers for publication. From the sub-sections these discussions will be carried into the different medical clubs and associations to which most of us belong, where they will be re-discussed, and so benefit other assemblages, and probably be the means of inducing many enterprising and talented members of the profession to enter the Academy. The subjects, having passed through these preliminary steps, will be brought before the whole section, in which they will or may be again examined and discussed, and, last of all, find their way into the Academy, where they will undergo their final examination and discussion, which will elicit remarks embodying the experience and knowledge of the whole assemblage, and give every member an opportunity of learning all that is known in relation to the matters thus brought before this body, and with much less trouble and labor than the same amount of information could have been elaborated and acquired in any other way. To this end, it is only necessary for every one to work, strictly speaking, for his own benefit."

code of ethics, which it has, heretofore, jealously guarded and enforced, it is an ethical body of no mean importance. It has already so impressed upon its members the character of honesty, regularity in education and practice, and scientific attainments, that the younger medical men, and recent residents, are seeking early membership to shield them, both in professional and public estimation, from the suspicion of irregularity. It is the high court of appeal to which the profession is beginning to refer individual differences, which involve a question of professional etiquette. As an ethical body, then, carefully protecting individual rights, equitably deciding all questions of ethics, and jealously maintaining the honor of the profession, the influence of the Academy will be immeasurably beneficial.

As a scientific body, the Academy is destined to take rank among the first institutions devoted to similar purposes. That it has contributed but little as yet to medical literature, is no valid objection to this assertion. Like all associations aiming to exercise over the profession an ethical control, and, at the same time, cultivate the study of all departments of medicine, it has had, necessarily, to pass through periods which severely tested its strength. At first its authority was not recognized, then it was disputed, but, finally, it is admitted. During this time its sessions were naturally much more devoted to the discussion of the rights, duties, and powers of the Academy, than scientific subjects. Too little attention was given to perfecting its internal arrangements, so as to make it efficient as a scientific body. But it has safely passed through these trying periods in its history, and, having attained its majority, it now enters upon a more prosperous career. By the recent division into sections, its organization for scientific purposes is rendered perfect, and the charge that it contributes nothing to the advancement of medical science, will hereafter have no foundation.

The Academy of Medicine is therefore destined, we believe, to be one of the most important medical associations in this country, both in "the cultivation and advancement of the science of medicine," in "the promotion of the character and honor of the profession," and in "the elevation of the standard of medical education." Located in this great metropolis, whose influence and power in every department of business is felt to the limits of our country, firmly uniting the energies of the great body of the profession of the city for the accomplishment of its noble objects; its organization so far perfected as to make it act harmoniously and efficiently as an ethical and scientific body, the future importance of this Academy can scarcely be over-estimated.



Nor is the day distant when it will exert upon our municipal government a most salutary influence. Its very organization, embracing the united efforts of the medical profession in the investigation of the causes of disease and their remedy, entitles it to become the head of the sanitary department of the city; and this fact will become more and more evident, until its authority is recognized, and such powers and privileges are granted.

We make these remarks as a suitable introduction to an abstract of the proceedings of the sections. The Section on Surgery and Surgical Pathology meets twice monthly, and after disposing of such matter as is referred to it by the Academy, receives from individual members verbal communications. The following is an abstract of the cases thus reported, and the practical remarks which they elicited:—

#### SURGERY AND SURGICAL PATHOLOGY.

REGULAR MEETING, March 16, 1855.—DR. DETMOLD, *Chairman*.

(Reported by DR. STEPHEN SMITH, *Secretary*.)

*Ligature of the Femoral Artery in its Middle Third.*—DR. DETMOLD related the particulars of a case in which he had recently ligated the femoral artery in its middle third, for a circumscribed false aneurism of the anterior tibial artery. The patient received a stab in the leg from a pair of scissors, which was followed by a jet of arterial blood; the wound healed, but an aneurismal tumor soon after appeared, for which ligature of the femoral artery was practiced. The physician in attendance requested ligature of the popliteal artery, and for this reason the ligature was applied to the femoral in its middle portion, just beneath the external border of the sartorius muscle.

*Exsection of the Superior Maxilla for Osteo-Sarcoma.*—*Previous Ligature of the Common Carotid Artery, with slight wound of the Internal Jugular Vein.*—DR. DETMOLD stated that he was called the day before to see a man whom the attending physician supposed to be suffering from a syphilitic affection of the jaw, causing caries of the bone, and involving the necessity of removing a sequestrum. A large tumor was found, involving the whole right superior maxilla, having the unquestionable characteristics of malignant disease. The patient was delirious, emaciated, with commencing gangrene of the mouth, and, with the exception of a good pulse and appetite, was evidently rapidly sinking. The only assistance that could be given was extirpation of the diseased growth, and this he proceeded to accomplish. Fearing there might be excessive hæmorrhage, owing to the infiltrated condition

of the tumor, it was deemed advisable to commence the operation by applying a ligature to the common carotid. This preliminary step was attended with considerable embarrassment, owing to a hiccup which attacked the patient, the small incision made, and the slight degree of pulsation discoverable in the artery. In the progress of the operation there was a jet of venous blood, which recurred on raising the artery from its bed by the ligature, but it immediately ceased on allowing this vessel to return to its proper position, and the application of slight pressure. The hæmorrhage was probably from the internal jugular vein, which must have been wounded in passing the needle. No trouble followed. He now proceeded with the main operation by making an incision from the lachrymal sac down to the lip, and along the infra-orbital margin, and dissecting of the flap, separated the bone with Liston's forceps. There was fearful hæmorrhage in this part of the operation. An incision was then made on the outer aspect of the tumor, from the external angle of the eye downward and outward, over the malar bone, and the bone divided with forceps. The tumor was then dissected from its remaining attachments and removed, and the actual cautery thoroughly applied. No ligatures were required. The patient bore the operation well, pulse continued good, and he became more rational.

In reflecting upon this case, Dr. D. is disposed to consider the operation improper, as the disease had evidently involved the ethmoid and sphenoid bones. Suppuration was very free, and the character of the delirium indicated implication of the brain. The chances of the patient, therefore, are not increased by the operation.

*Excision of Superior Maxilla and Malar Bone for Malignant Disease.—Carotid not Ligated.—No Hæmorrhage.*—DR. DETMOLD related a second case which occurred to him two years ago, where he removed the entire upper jaw and malar bone for malignant disease. He did not tie the carotid as a preliminary step, and there was no hæmorrhage. The patient recovered very favorably from the operation, but in a short time another tumor sprung from the sphenoid bone. A surgeon to whom he applied, tied the carotid, but without arresting the disease. He again applied to Dr. D. to have the tumor removed, who reluctantly consented to operate, as the patient wished to return to Germany, his native country, to die. The operation was performed without difficulty, and the patient lived to reach home in a very comfortable state, but died soon after.

DR. MINER assisted in the ligature of the femoral artery recently, where on tightening the ligature venous blood welled up from the

bottom of the wound; it was controlled by slight pressure, and the case progressed favorably. DR. DETMOLD thought there was not much danger in these slight wounds, unless air entered the vein. He has tied the carotid eight or nine times, and once in a child six months old, but never met so difficult a case as this, owing to the hiccup and feeble pulsation in the artery.

DR. KRACKOWITZER suggested that the hiccup might have been due to injury of the par vagum.

DR. DETMOLD replied, that the hiccup commenced before he had exposed the vessels.

DR. BATCHELDER has frequently found great difficulty in attempting to pass the needle from without inwards, owing to the spasms excited by irritation of this nerve, and in these cases is accustomed to reverse the rule, and cautiously pass the needle from within outwards.

DR. DETMOLD remarked, that he never before tied the carotid previously to operating on the face, but in the case related, did not think it possible to have removed the tumor, without great danger from hæmorrhage, if the artery had not been tied—tying one carotid will not ordinarily prevent hæmorrhage, as the collateral circulation is so free, and he had seen jets from both cut extremities of the coronary artery in such cases.

*Employment of Adhesive Plaster as a Counter Extending Band in Fracture of the Femur*—DR. MINER had recently under treatment in the Brooklyn Hospital, a German, having a sallow look, and cachectic appearance, who was admitted for a fracture of the thigh. He was treated as usual with a long splint, adhesive strip at the foot, and the ordinary perineal band. The case not being carefully watched, severe ulceration took place in the perineum. To continue treatment, and not add to the existing trouble, wide strips of adhesive plaster were cut, and passed down on the internal and external aspect of the thigh, and the ends were brought over the upper extremity of the splint, and secured. The patient made no further complaint, the ulcerations readily healed, and the result was entirely satisfactory.

DR. DETMOLD mentioned the case of an infant six weeks old, which had fracture of the femur in its upper portion; great difficulty was experienced in keeping the fragments in apposition, owing to the elevation of the upper portion, but by applying an apparatus, so as to elevate the lower fragment and maintain it in contact with the upper, the case did well. He believes that shortening of the femur always occurs, and that but one inch of shortening in an average of twenty

cases is a good result. He exhibited a cast of the foot and leg of a child four years old, which, on recovering from a fit of sickness, at the age of four months, attempting to walk, was noticed to have a deformity of its ankle. On examination, an ununited fracture of the bone of the leg was found. An attempt to refracture it failed. By sub-cutaneous incision he divided the parts above the fragments, and with pulleys reduced them. It was found impossible, however, to retain them in apposition by ordinary dressings, and plaster of Paris was resorted to; the result is not known; if union has not taken place, he purposes using the perforator. Dr. Stevens had a similar case fifteen years ago, in which he resected the ends of the bone, but finally had to amputate.

*Luxation of the head of the Radius in an Infant, during the operation of turning.*—DR. KRACKOWITZER related a case of luxation of the head of the radius, in an infant seven years old. The accident was supposed to have occurred during the operation of turning. The head of the bone was displaced forward, and the hand was lying in a prone position. The luxation was very distinct; the arm was ecchymosed after birth.

DR. BATCHELDER remarked, that luxations of the head of the radius were not very infrequent in older children, the displacement being produced by the nurse lifting the child by the hand, as when in leading it the child falls, and the whole support of the body comes upon the hand. He has seen a number of such instances. The reduction is often difficult, generally from too much extension being made. He is accustomed to reduce these dislocations by simple manipulation, without making traction. The following is his method of operating:—Grasping the patient's hand upon its ulnar aspect in one hand, the thumb being applied to the palm, and the fingers to the dorsum, he seizes the elbow with the other on its inner side, the thumb being firmly applied to the head of the radius. The hand is now at first carried strongly inward, while firm pressure is made upon the luxated head of the radius, the elbow being also held firmly in the grasp of the upper hand; the arm of the patient is then flexed from this position suddenly and forcibly, the hand being carried strongly to the outer aspect of the humerus. By this movement the luxated head of the radius is first raised from its false position, and then made to descend to its proper position.

*In a Case of Congenital Inguinal Hernia, where the testicle has not descended, would it be proper to apply a truss to effect a cure of the Hernia?*—DR. HOLCOMB stated, that a child six weeks old was

brought to him, having an inguinal hernia upon the right side, but, on examination, it was found that the testicle of this side had not yet descended. He inquired as to the propriety of applying a truss.

DR. DETMOLD advised to let it alone, as there was no danger from the hernia, and the application of the truss might by curing the hernia prevent the descent of the testicle. The testicle descends in these cases at variable periods; he could recall several cases where the children are seven or eight years old, and still the testicles have not descended. They are often seized with pain, and brought home from school suffering severely, from the injuries which the partially descended testicles receive. He has seen these cases treated for hip-disease. He has known a case where an adult suffered from suppuration of both testicles in the canal. As it is important, therefore, that the testicles descend, and the application of a truss would materially interfere with that act, he would not interfere.

DR. BROWN alluded to the treatment of hernia in infants, with a skein of thread. It is applied by passing the skein of proper size, around the hips, drawing one end through the loop in the other, and adjusting the knot so formed over the rupture; pass the free end between the thighs, and fasten it to the part crossing the back.

*Strangulated Femoral Hernia in a Female aged 87 years.—Relieved by powerful Enemata.*—DR. MINER related the case of a woman 87 years old, suffering from a strangulated femoral hernia. The hernia turns had existed for several years; the week previously she had considerable pain in it, with symptoms of strangulation; but after attempts at reduction, she got better. The bowels were moved with relief, and the physician in attendance began treating her for a bronchitis. When called to see her on a return of the symptoms of strangulation, she had stercoracious vomiting, but no pain or soreness of the tumor; a full pulse, and great irritability. Ice was applied to the tumor and the body lifted up, and attempts made in the inverted position to reduce it, and finally opium was given in large doses. On the following morning there was no relief, nor was there prostration. Active cathartics and enemata were ordered; chloroform and tart. emetic were not used on account of the great age of the patient. On the following morning, symptoms were more aggravated; prognosis most unfavorable; an operation, however, was not advised, and as the enemata had not been well given, they were ordered to be repeated. At 4 p.m., the council met, and found the bowels had been freely moved, with entire relief to the symptoms. Had the patient been young, would an early operation have been proper?

DR. DETMOLD would have operated without fail. He does not think the operation so dangerous in old people.

DR. MINER would have operated on a young person under these circumstances, without fail. He was disposed to regard the symptoms in this case as rather due to impaction, than strangulation; but the operation would have been no less difficult.

DR. BATCHELDER thought the absence of pain modified the question of operation; there was less need of it; he doubted if the obstruction existed in the tumor; to learn the exact point of the obstruction, he should resort to the stethoscope; this defines the point where the peristaltic action ceases.

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#### PATHOLOGICAL SOCIETY.

REGULAR MEETING, January 23.—DR. ROBERT WATTS, JR., *President*.

(Reported by DR. E. LEE JONES, *Secretary*.)

*Puerperal Convulsions*.—DR. T. C. FINNELL presented the uterus, stomach, liver, and one kidney, obtained from a young woman, 23 years of age, unmarried, who died this morning of puerperal convulsions, three months and a half advanced in pregnancy. She had been in a state of great despondency at the absence of her lover. Last evening, she retired, complaining of pain in back and abdomen; in the course of the night she was seized with convulsions, which continued until seven o'clock this morning, when she died. Between the interval of the recurrence of the convulsions she was in a comatose condition. The autopsy revealed the kidneys, congested; the liver, covered with spots resembling purpura hæmorrhagica as seen on the surface of the body; the mucous membrane of the stomach was likewise studded with similar spots. There was a suspicion of poison having been taken, but no evidence.

*Cirrhosis of Liver*.—DR. FINNELL also presented a specimen of cirrhosis of the liver, occurring in a woman 22 years old, admitted into St. Vincent's Hospital, on the twelfth of this month, having a chronic ulcer of the leg. The second day after admission she complained of a sensation of faintness, and was, in consequence, unable to leave the bed. In a few hours the skin became jaundiced, and on the following morning the presence of abdominal effusion was evinced by distinct fluctuation. She had no pain.

January 14.—Commenced vomiting; pulse 85; mind clear; skin cool. She expressed a desire to return home, if her sickness was likely to prove serious. In the evening she vomited a large quantity of blood; shortly after, she died.

*Post mortem examination* revealed the peritoneal cavity containing three quarts of serum. In the stomach was found a quantity of coagulated blood. On carefully washing the organ, no morbid appearance was observed. The liver was extensively cirrhotic, being diminished to one-half its natural size, nodulated, and firm in texture. The venæ portæ were filled with fibrinous coagula. The hepatic, cystic, and common ducts were much contracted.

*Stomach of a Child which had swallowed forty grains of Nitrate of Silver.*—DR. FINNELL then presented the stomach of a child, four years of age, who was poisoned by forty grains of the nitrate of silver, and which occurred in the practice of DR. RUFUS BELDEN. The following history was given:

Catherine Gould, aged 4 years, swallowed, on the 1st day of July, 1855, two scruples of nitrate of silver. For the first five or six days no unpleasant symptoms were exhibited by the child, or perceived by its parents, the little one continuing to run about as usual, and amusing herself with her wonted plays and amusements. On or about the sixth day it was attacked with violent mucous diarrhœa, which continued for nearly two months, attended with extreme emaciation and impaired appetite. After the usual remedies had been given for some six weeks, ordered the following mixture:

R Bals. copaiba, ℥ss.  
Muc. G. acacia, ℥ijss.  
M.

and administered in teaspoonful doses every four hours. Twenty-four hours after using it, the lips, gums, and teeth became encrusted with the caustic, on the mucous membrane of mouth and fauces. The action of the nitrate of silver was evident, the sputa appeared as if nitrate of silver had been dissolved in them; continued the use of the balsam, etc. On the ninth day after commencing the balsam, the diarrhœa became less, the action of the caustic in the mouth, on the lips and teeth, disappeared, and in about two weeks all unpleasant symptoms had subsided, the child improved in flesh, and became apparently well, and continued so until the beginning of last December, (five months after swallowing the poison,) when it showed symptoms of typhoid fever, such as a dry, mahogany-colored, and fissured tongue. Pulse 120 per minute and small; very restless; skin hot, dry, sensitive, and of a dusky tint; eyes glassy and wild, pupils dilated; an inveterate disposition to pinch its own nose; some delirium; great languor and spasmodic movements of upper and lower extremities. These symptoms continued, more or less severe, for fifteen days, when

the child began to improve, and on the 18th was convalescent; tongue became moist, and lost its brownish hue and fissures; skin natural, moist; all the secretions normal; took nourishment, and continued to improve for some two or three days, but after that period a relapse of the above-mentioned symptoms re-occurred, and continued for a few days, when it again began to improve, in four weeks from the first attack of typhoid fever. In the beginning of January, 1856, the child was permitted to eat apple pie, rather inferiorly baked, and from that period there was no disposition to take nourishment. On the following day it began to vomit biliary matter, and continued to do so until death—it invariably refused nourishment. Great thirst, loss of appetite, and vomiting of bile, were the only symptoms observed. The alvine evacuations were natural. Patient free from pain or tenderness during the whole period until about three hours before death, when the little sufferer began to complain of excruciating pain in the epigastric region, and sank rapidly, and died on Jan. 19, 1856. *Autopsy* twenty-six hours after death. The stomach presented three ridges, where the caustic had probably first rested. At these points the mucous membrane was much thickened and elevated.

DR. METCALFE suggested, that, as this was an interesting and novel case in the annals of the Society, the elevations of the stomach be submitted to minute examination by the microscope, to learn what changes, if any, had occurred in its structure, and he moved that Dr. Clark, in connection with Dr. Finnell, be requested to make the examination.

*Cirrhosis of the Liver.*—DR. FINNELL then presented a specimen of cirrhosis of the liver, obtained from a man 44 years old, who applied a few months since for advice at the Demilt Dispensary, suffering then from debility and abdominal effusion. At one period he had been very intemperate, but of late years had entirely abstained from drink. In May, 1853, copious hæmatemesis occurred, which has been repeated on several occasions. At the time of his application, the prominent symptom observed was the ascites. Examination of the heart and lungs detected nothing abnormal. No albumen in the urine. *Diagnosis.*—Dropsy, a consequence of cirrhosis. *Treatment.*—Palliative.

*Autopsy.*—*Lungs* healthy, but a single old pleuritic adhesion, which connected not very firmly the base of the left lung to the diaphragm. *Heart* was in normal state, except a few small patches of organized lymph upon the surface, showing that slight pericarditis had formerly existed. *Abdomen.*—The intestines were glued together by extensive old peritoneal inflammation apparently having no relation to the recent operation of paracentesis abdominis. *Liver.*—Right lobe was adhe-



rent to the diaphragm, and part of the left, from firmness of adhesions, was in the removal torn off. Cirrhosis had occasioned considerable contraction. On expression, no pus, only serum, exuded. *Kidneys*.—Left had lost entirely the line of distinction between the cortical and middle pyramidal portions, while the right showed a similar diseased condition not as far advanced, effused fibrin giving them a very distinct outline. *Spleen* generally adherent, enlarged, carnified, with much fibrin thrown out around the vessels. *Stomach* contained a large quantity of venous blood—was lined with inspissated mucus, but presented no ulcerations or other lesions.

The opinion seems warranted, that not only the contraction of the portal vein, but also the inflammation of the smaller mesenteric veins during the peritonitis, causing obstruction to the circulation of fibrinous effusion then, and the subsequent contraction of *their* surrounding cellular tissue, produced the ascites.

DR. CLARK remarked, that the cases of cirrhosis were interesting in one particular, viz.: hæmatemesis, without any lesion of the stomach. DR. METCALFE had first called the attention of members, a few years since, to the frequent occurrence of this symptom in the disease in question. The liver being firm and hard, the circulation obstructed, it is easily conceived how the hæmorrhage of the stomach is a consequence of the obstructed circulation.

*Aneurism of the Aorta bursting into the Œsophagus*.—DR. MCCREADY laid before the Society, a specimen of aneurism of the aorta, which burst into the œsophagus, obtained from a young man, 28 years of age.

Charles H., æt. 28, applied to Dr. McCready, on the 13th September, 1855, for advice. He was a well-built, fine-looking young man, accustomed to much active exercise in the open air. According to his statement, his health had for a number of years been perfect and he now was well, with the exception that he was attacked, at irregular intervals, with an intolerable feeling of pain and oppression at the epigastrium, which, after lasting for a short time, would be relieved by the eructation of a quantity of watery fluid. The fluid thus brought up was without taste or smell. His appetite was good, his bowels regular, the tongue clean, the skin soft, and the complexion clear. The complaint had existed about a fortnight, and the attacks generally recurred once a-day. Bismuth, and afterwards hydrocyanic acid, were ordered, but afforded no relief.

On the 23rd of September, H. summoned Dr. McCready to his house. Within the last twenty-four hours, he stated, he had become

much worse. He complained of a very distressing pain and sense of oppression, which he referred to the pericardium, and to the space under and at the cartilages of the false ribs on either side. He had had repeated attacks of vomiting, and could retain nothing on his stomach. His countenance was pale and anxious, and his respiration was hurried. The pulse was good, but somewhat increased in frequency. The bowels heretofore regular, had not been moved for the last twenty-four hours. There was slight occasional and somewhat hoarse cough; his voice, too, was somewhat hoarse. This condition continued unrelieved for a week, apparently unaffected by the remedial agents employed, (mercurial purges and enemata—nitrate of bismuth, morphia, hydrocyanic acid, with local applications to the seat of pain). Towards the latter part of this time, pain in the left shoulder, and along the inner side of the left arm was much complained of. The peculiarity and obstinacy of the symptoms suggesting that they might be caused by some organic disease. His chest and abdomen were repeatedly and carefully examined, without any morbid signs being discovered. While he was perfectly quiet, he often enjoyed intervals of comparative ease, but the slightest exertion would renew his distressing symptoms. The deadly sickness at the stomach being most complained of. After any unusual exertion too, or after a paroxysm of coughing, the hoarseness would be much increased, so that the voice would become almost extinct. At the end of a week his symptoms were gradually mitigated. He still, however, continued unable to take exercise; walking a short distance, two or three squares, riding in an omnibus, or ascending a flight of stairs, produced a renewal of the sickness at the stomach, and the difficulty of breathing, and the hoarseness.

*November 1.*—To this time H. remained about the same, though there was perhaps some slight improvement; he was able to take a little more food, and retained it somewhat better; he complained, however, of great difficulty in swallowing solids. On again examining his chest, I found that, in a space just beneath the inner third of the clavicle, and extending as far as the middle of the sternum, there was a decided dullness on percussion; over the greater part of this space a pulsation, synchronous with that of the heart could be felt, and the heart's sounds could be heard with great distinctness. The breath sounds were coarse and rough, and on the left side, the respiratory murmur was interrupted. The left clavicle appeared somewhat crowded upward, and there was no pulse to be felt at the left wrist.

*November 8.*—The patient was visited to-day, by Dr. Metcalfe, in

consultation. *November 10.*—H., during the past night, complained of a severe pain in the back, which distressed him greatly, and lasted for a number of hours. This morning he feels decidedly better than he has done for a long time, moving more briskly and freely; the pulse can be felt though feebly in the left radial artery. The abnormal pulsation is stronger; the area of dullness increased, and the clavicle further crowded up. *November 25.*—Much the same as before, the pain in the back has occasionally troubled him, but he now refers his distress mainly to the left side, in the shoulder and under the shoulder blade. There is decided fullness, almost tumor, back of each clavicle; and loud respiratory murmur can be heard there. The natural depression at the top of the sternum is lost, and replaced by a decided swelling. At times, according to the family, now on one side, now on the other, a soft egg-shaped swelling has appeared there. Over the dull space the heart's sounds are now heard, faint, distant, and metallic in their character; the pulse still felt in the left radial, though with difficulty. It is likewise felt in both carotids, though deeper seated than usual.

He yesterday had a terrible and long-continued paroxysm of dyspnea—he is much distressed by paroxysms of cough. *December 1.*—H. has again had a terrible attack of pain. This time however it was altogether in the back and right side, extending from beneath the clavicle to the hypocondrium; he felt, he expressed himself, as if he were being torn by red hot pincers; the difficulty of swallowing is much aggravated; the pain in the back, too, is becoming more constant and troublesome. He has lost flesh greatly, and has a pale, sallow, anxious look, and is gradually losing strength. The area of dullness has considerably increased, extending from the junction of the second right rib with the sternum, to about half-way between the sternum and edge of the axilla on the left side, or about three inches in perpendicular depth. *December 17.*—During the day H. had been particularly bright, cheerful, and free from pain. Early in the evening he had a severe spell of coughing, attended with a feeling of impending suffocation; suddenly he exclaimed something had burst inside, put both his hands upon his abdomen, became deadly pale, and expired.

*Post Mortem Examination* revealed the dilatation commencing at the left carotid—left subclavian obstructed. The aneurism lay upon the œsophagus, into which was a large, ragged opening. The stomach contained three pints of blood. The contents of the tumor were fluid—there was an entire absence of laminated fibrine, which circumstance accounted for the varying size of the mass from time to time, and the

nervous phenomena were probably due to the stretching of the par vagum. The bodies of several of the vertebræ were absorbed.

Dr. Clark inquired, if there were any atheromatous patches?

Dr. McCready replied, a few spots were observed.

Dr. Isaacs considered the symptoms explained in a remarkable degree, by the pathological condition of the specimen.

*Cancer of Small Intestines.*—DR. THOMAS F. COCK presented a specimen of cancerous disease of the small intestines, removed from a female patient, 23 years of age, single, admitted into the New York Hospital, on the 17th of December, 1855. She stated she had been subject to obstinate and frequent attacks of nausea and vomiting, with pain, resembling cramps, increased on pressure in the right iliac fossa. The first attack occurred in June last. Of late the paroxysms have increased in number and severity.

On admission, she was pale, emaciated, and cachetic; abdomen sunken; breath offensive, tongue moist, red, and furred; substance vomited, green and abundant. Physical examination revealed the organs of the chest healthy. The entire trouble was referred to the abdomen. She continued comparatively comfortable for a month after admission, when, 18th January, 1856, at the morning visit she was found in much distress, having suffered greatly during the night. Examining the abdomen, a tumor was found situated in the epigastric and umbilical regions, extending to both hypochondria, well-defined, hard, painful to the touch, resembling in form a distended stomach. On the right side there seemed to be a smaller tumor, connected by membranes with the larger mass; also, there could be felt a body of greater density than the remainder of the tumor, movable, situated to the right of the main tumor, giving a sensation similar to the hard parts of the foetus within its membranes—between the two was a depression. The shape of the whole mass was semilunar, the concavity upward, greatest breadth near the centre; its margin, on the right, irregular; no fluctuation, its surface irregular, almost nodulated. It was conjectured that it might be the stomach, pushed below its natural position, and enlarged by carcinomatous growth. Treatment adopted was palliative and sustaining. The next day she had a copious evacuation of almost pure blood, about a pint; the day after, another. She died on Monday the 20th January.

*Post Mortem Examination.*—Externally no evidence of a tumor. On opening the abdomen, marks of recent peritonitis observed. No tumor was found. The intestines were everywhere glued together by old adhesions. The parts were so much disorganized, that it was im-

possible to state particular portions of the intestines were diseased, other than to say the disorganization was confined to the small intestines. Commencing at a point where several small tumors existed, the intestines dilate, and below, for a space of eighteen inches, the gut was dark, soft, and permeated with small holes. Some of them were probably caused in removing the viscera, as the fluid in the abdominal cavity was similar to that found in the intestines themselves. Two feet below this it again changes, becoming more normal. The stomach was healthy. The little masses he considers of a cancerous nature.

*Luxation forward of the Upper End of the Radius.—Amputation.*  
—DR. MARKOE laid before the Society a specimen of luxation of the radius forward, at the elbow, taken from a man about twenty-five years old, who entered the New York Hospital some weeks ago, with a severe injury of the left elbow, received by a fall from a bridge, down on to a railroad track, striking against the iron rail. When admitted, swelling had already taken place, and much obscured the diagnosis.—The whole limb was deformed; a deformity, however, which was easier appreciated than described. On the anterior aspect of the elbow could be felt a long prominence which moved on rotation of forearm, which motion produced abundant crepitus, apparently directly under the finger. A large lacerated wound existed on the posterior and outer aspect of the joint, from which numerous fragments, apparently from the side of the olecranon, were taken away. The injury was considered so serious, the joint being extensively opened behind, that but few attempts at reduction were made, and those unsuccessfully, it being a mere question of primary or secondary amputation. It was decided to leave the limb for secondary amputation, not overlooking the possibility of its being saved without operation. Hope of such a result was soon abandoned. The inflammation, and suppuration following, was so extensive and severe as very nearly to destroy him, and the arm was finally amputated, as the only means of saving his life. The diagnosis made by Dr. M. of the injury at the time, was fracture of the neck of the radius, with displacement of shaft forward, as in luxation. There was undoubted fracture of the ulna lower down. The specimen shows the head of the radius thrown forward upon anterior surface of the humerus, and the ulna fractured three inches lower down. Now, in grasping the specimen, with the thumb on the head of the radius, the fingers behind embrace the portion of the ulna which is fractured.—The crepitus thus transmitted was so clear and distinct on rotating the forearm, as to lead to, and explain, the mistake made in the diagnosis.

*Cast of Trachea in Adult from Croup.—Laryngotomy.*—DR. METCALFE exhibited a cast of the trachea obtained from a lying-in patient of Bellevue Hospital, attacked with laryngitis. The symptoms were so urgent as to demand the operation of laryngotomy. She died, partly from asthenia, and partly from asphyxia. On inspection, false membrane was found behind the epiglottis, lining the whole interior of the larynx, and extending down to the fourth division of the bronchial tubes. The specimen is a complete cylindrical cast of the trachea.

*Case of Membranous Croup in Child five years old.—Expectoration of an unusual Cast of Trachea.—Death.*—DR. METCALFE also presented a cast of trachea from a child, Hannah Humes, æt. 5 years, born in New York, was taken sick on the 27th September, with symptoms of croup. The mother, not supposing the child to be very ill, treated her herself; giving hot baths, several doses of castor oil and an emetic dose of pulv. ipecac, which, however, did not produce vomiting. The child becoming worse on the 30th Sept., a physician was called to see it, who found it with membranous croup, and, on examination of chest, detected pneumonia in both lungs; there was considerable dyspnoea coming on in paroxysms; pulse one hundred and ten, and feeble; skin hot and dry; tongue slightly coated; bowels regularly moved.

Leeches ordered to the chest, to be followed by fomentations, a purgative of calomel, and syr. ipecac., with tinct. aconite rad. After the child had taken about half an ounce of the syr. ipecac., and about five drops of the aconite, she threw off this membrane; but continued to sink, and died on 1st October. On inspection the exudation is seen.

DR. M. also presented a similar instance in a girl thirteen years old, and a perfect cast of the bronchial tube, expectorated by a woman fifty-three years. She had been affected for four or five years with what might be termed *fibrous bronchitis*.

DR. CLARK suggested that, in the last case, the casts were the result of local bronchial inflammation, due to the presence of tubercles. He had three times seen similar casts expectorated by persons afterwards presenting symptoms of tubercles.

DR. METCALFE observed that in thirty-four cases collected by Dr. Peacock, twenty entirely recovered, and, as a general thing, they were not a consequence of tubercles.

DR. PEASLEE remarked that the specimens presented by Dr. Metcalfe were of great interest, since they show the same pathological condition of the air passages at very different periods of life; from infancy to over fifty years. In all these cases, inflammation of the lining mem-

brane of the air passages had occurred, and a false membrane had been formed in consequence; the disease being called "croup" in the first-mentioned cases, and "fibrous bronchitis" in the last one. Dr. P. does not believe there is anything *specific* in croup, whether pseudo-membranous or not so. He regards it as a *mere simple laryngitis*, at first, becoming also a tracheitis, as it descends into the trachea; and since it also often extends downwards into the bronchial tubes, (as these specimens also demonstrate), it is then, of course, a *laryngo-tracheo-bronchitis*. Whether a false membrane is formed or not in croup, depends upon other circumstances, and not upon the nature of the inflammation. If the plasma exuded upon the inflamed membrane be of good quality, and remain at rest and in perfect contact, it will become fibrillated (coagulated) into a false membrane; in the opposite circumstances the latter cannot be formed. In cases of laryngo-tracheitis, it is, therefore, far more likely to be formed in infants and young children, who have less power to expel the plasma when first exuded, or soon after. In adults, for the same reason in part perhaps, females, are more liable to the pseudo-membranous form of laryngo-tracheitis (or croup) than males are. Dr. P. had before been himself acquainted with but three cases of croup in adults; and these were all in females. The last specimen shown by Dr. Metcalfe was one of pseudo-membranous bronchitis, and the others were of pseudo-membranous laryngo-tracheitis.

Another point of interest was suggested to Dr. P. by the fact, that the false membrane lining the larynx and trachea, was probably completely detached from the mucous membrane (if he was correctly informed) before death, and had shrunk somewhat, so as to obstruct the air-tubes more than while in perfect contact. In all cases of croup with false membrane, Dr. P. stated that the latter will become spontaneously detached if the patients can be kept alive a sufficient time. For the new membrane is never vascular, and there is no vital connection between it and the mucous surface beneath.

Dr. P., therefore, thought the inference unavoidable that a great object in the treatment of croup with false membrane, should be to sustain the patient's strength; and that the heroic treatment of this disease, so often adopted, is all wrong; at least after the disease is fairly developed, and the new membrane is already formed.

*Necrosis of Tarsus.*—DR. CONANT exhibited a specimen of *necrosis of tarsus* occurring in a patient, 19 years old. About fourteen months ago, the patient run a pin in the inferior part of the foot—the pin was removed, but still she suffered much pain, and the next day symptoms

of tetanus appeared, which were, however, restrained by the administration of opium. An abscess formed sometime after, and continued to discharge by two openings on the top of the foot. She suffered much constitutionally, and it was concluded to remove the leg—the operation was performed, and, on examination, it was found that the bones were all ankylosed, the os calcis being only diseased.

*Cancer of Colon.*—DR. AYRES presented a specimen of *cancer of the colon*, which was obtained from a woman, 68 years old. Two and a-half years since, he was consulted for some slight gastric derangement. She had then a tumor in the right iliac fossa, which he attributed to impaction of the bowels. The fæces were removed, and still the tumor remained. She became emaciated and pale; the countenance assumed an icterode hue; had alternations of diarrhœa and constipation; occasional hæmorrhage from bowels. A brother died from cancer of the brain. *On Inspection*, the caput coli is seen hard, firm—the intestines filled with fungous masses.

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#### SOCIETY OF STATISTICAL MEDICINE.

REGULAR MEETING, JANUARY 14, 1856.—DR. PEASLEE, V.P., in the Chair.

(Reported by DR. G. BENEDICT, Secretary.)

*Remarks on Paracentesis Thoracis, based on an Examination of One Hundred and Thirty-Two reported Cases;* by JOHN A. BRADY, M.D., of Brooklyn, N. Y.—DR. BRADY introduced the subject of his paper by reporting in considerable detail, a case of pleuritic effusion, in a man aged 25, occurring first upon the right, and subsequently upon the left side. He was treated with marked success by repeated blisters, slight ptyalism, followed by acetate of potash, and iodide of potassium, etc. After several months he began to decline in health without any perceptible cause, and in spite of medication. He died from the exhaustion of delirium following an over-dose of laudanum, which he had incautiously swallowed. On examination, the left lung was found to be healthy; the right was firmly united to the walls of the chest by old and very dense bands. The upper portion was healthy and permeable to air; but the lower portion was condensed and perfectly solid. No tubercles were found in either lung, and the cavity of the thorax was free from fluid.

In the course of his reflections on the above case, DR. BRADY had been led seriously to regret that the operation of paracentesis was not performed. For, notwithstanding the treatment instituted caused the absorption of the fluid, the process was so tedious and slow, and the



pressure of the fluid continued so long, as to impair seriously the functions of the lung, so that, even had he lived, it was doubtful whether the lung would ever have attained its former size and usefulness. His attention having been directed in this manner to the subject of *paracentesis thoracis*, he was led to collect together all the cases of *empyema* and *hydrothorax* reported in the British and American Journals, in which the operation has been performed. And the remainder of his paper was devoted to an analysis of the one hundred and thirty-two cases collected, together with a brief examination of some of the points connected with the operation.

Of the one hundred and thirty-two cases in which the operation was performed, it resulted in complete recovery in seventy-nine cases; fourteen were relieved; thirty-seven died; in one the result was unknown, and in one no effect whatever was produced. Of those who died eleven were carried off by *phthisis*; four were sinking, and beyond the probability of recovery when the operation was performed; one died from the effects of an opiate; in one case the fluid could not be reached; and in one a doubt existed in the mind of the medical attendant whether active treatment after the operation might not have saved his patient's life. This leaves only nineteen remaining whose deaths could by any possibility be attributed to the operation. It appears also that in the majority of the cases reported, the operation was not resorted to until the hope of relief from any other source had failed, when the lung had become more or less altered in structure, owing to the pressure of the fluid, and the patient's strength exhausted by the continuance of a painful and harassing disease. In all of the cases, with one exception, the removal of the fluid afforded marked, and in many cases entire, relief. There is but a single exception. In this case two operations were performed; the first of which afforded relief, but the second was attended by no such beneficial result.

Of those who were operated upon, the fluid had existed—

Less than 1 month in 15 cases.

"	2	"	19	"
"	3	"	12	"
"	4	"	8	"
"	5	"	4	"
"	6	"	3	"
"	7	"	3	"
"	8	"	3	"
"	9	"	5	"

Less than 2 years in 2 cases.

" 3 " 2 "

" 7 " 1 "

And in 55 cases the duration was unknown.

				Recovered.	Relieved.	Died.
The effusion was pus	in 52 cases, of whom	37	2	13		
" serum	" 59 "	" 29	12	18		
" sero-purulent	" 8 "	" 5	0	3		
" unknown	" 13 "	" 10	0	3		

Of those who died, the effusion had existed within 1 month in 2

"	"	"	"	2	"	1
"	"	"	"	3	"	3
"	"	"	"	4	"	3
"	"	"	"	5	"	2
"	"	"	"	6	"	1
"	"	"	"	7	"	1
"	"	"	"	9	"	2
"	"	"	"	2 years	in 2	
"	"	"	a long time	"	1	
"	"	"	unknown	"	19	

The largest amount evacuated during the whole treatment was of pus, 22½ lbs.; serum, 15 pts.: and the smallest, pus, 5 oz.; serum, 1½ oz.

The operation of tapping the chest for the removal of fluid collected therein, has been since the days of Hippocrates; and although one would think a sufficient length of time had elapsed since its practice began, for the profession to settle the question as to its usefulness and safety, still there is no operation within the province of the surgeon, concerning the practice of which there has been more controversy and difference of opinion than the one under consideration. Of late years the valuable papers of M. Trousseau of France, Drs. Hughes, Cock, and Hamilton Roe, of Great Britain; and Drs. Bowditch, Wyman, and Pepper, of this country, have done much towards convincing the medical profession of its practicability and safety in all cases where fluid has been thrown out in the thoracic cavity, the result of pleuritic inflammation. A careful examination of the result of their labors, proves that, in their hands at least, it has not been attended by any of those unpleasant and dangerous consequences, that had almost universally been attributed to it.

The objections urged against the operation apply almost entirely to

it as performed in accordance with the method laid down in most works on surgery ; but, as practised by surgeons of the present day, the operation is perfectly easy, safe, and practicable. The principal objection brought against the operation is, that by it air is admitted to the pleural cavity, and that its presence there compresses the lung, causes a decomposition of the fluid, thereby lessening the patient's chances of recovery ; and that it also increases the inflammatory action already going on. These objections if true would divest the operation of much of its usefulness, but, although the admission of air cannot always be prevented, the quantity is so small when the operation is properly performed, as to cause no trouble whatever ; on the contrary, it has been found to assist in the removal of the fluid—is not sufficient to compress the lung, and is readily absorbed in the course of a few hours. Dr. Bowditch, in speaking of this objection, (*Am. Jour. Med. Sciences*, 1852,) says, "The admission of a small quantity of air does not necessarily cause trouble, unless it be frequently repeated, as in cases of pneumothorax and of puncture of the thorax according to the old operation." Dr. Fergusson says, "I have never seen any evil result arise directly from the admission of a small quantity of air," and Dr. Hamilton Roe, in speaking of this objection, uses the following language, "In every case which has fallen under my observation, a considerable quantity of air, entered into the pleura during the operation, and in some of them so freely as to excite all the physical signs of pneumothorax, but in none of them did it produce any permanently evil effect, a few hours being sufficient for its spontaneous removal ; in one instance only did it cause even temporary inconvenience."

Another objector, Dr. Hope, says, "The operation is unnecessary, and that all cases in which this operation has been instrumental in producing a cure, the like result could have been attained without its aid ;" and in proof thereof he cites 35 cases, cured by the use of mercury. This assertion, experience proves to be untrue. If the fluid effused be simply serum, and the patient's constitution be not already broken down, and the amount effused be not too large, then if a judicious treatment be instituted a reasonable hope may be indulged that the fluid will be removed by absorption. But, if, on the contrary the amount of fluid thrown out is so large, as to interfere materially with respiration, or it has accumulated so rapidly as to prevent absorption, then the operation must be resorted to.

When should the operation be performed ? Most writers are of the opinion that the fluid should be removed at an early period of the disease ; Drs. Hamilton Roe and Bowditch say it should not be

allowed to remain longer than three weeks. When the fluid effused in the pleural cavity is serum alone, unless the quantity is too large, its absorption and consequent removal can be brought about, in a majority of cases, by the use of proper remedial agents. But if the quantity be so large as to threaten suffocation, or if the pleural sac is much distended by a rapid effusion, then the operation should be performed. It should be borne in mind that, if the fluid is allowed to remain too long, phthisis is almost certain to supervene; for that reason, the operation should not be too long delayed. If the matter be purulent, valuable time should not be lost, in waiting until it is broken down and then absorbed, or until it establishes an opening for itself, but the operation should be performed immediately. Of course the above remarks apply to cases of uncomplicated hydrothorax and empyema. But even if phthisis be present, the removal of the fluid, will in many cases, afford considerable relief, and so lengthen the life of the patient. If possible all inflammatory action should be subdued before the operation is performed.

Before the operation of paracentesis is performed, an exploration should be made, in order to ascertain with certainty the character of the effusion. In regard to the exact locality at which the puncture should be made, discrepancy of opinion exists. Most operators, however, prefer the 5th intercostal space, about midway between the sternum and spine, or just posterior to the digitations of the serratus magnus. When the fluid points externally, the puncture should be made with a lancet in the most prominent part of the swelling. Several instruments have been invented for puncturing the chest, but a small sized trocar appears to answer the purpose as well, and to be as safe as any other instrument; care should be taken to have its point perfectly sharp. Some operators make an incision in the integument first, but this does not appear to be absolutely necessary; a difference of opinion exists among operators as to whether the whole or only a portion of the fluid should be removed at once. This matter however must be left entirely to the judgment of the operator. If the effusion be recent—when the lung has not been compressed but a short time, no harm can result from allowing the fluid to be evacuated at once. If dyspnoea or syncope supervene, or air begins to enter the cavity, then the discharge should be stopped at once. In a majority of the cases reported, in which the operation was successful, the return to health was gradual and progressive.

It would, therefore, appear that the operation is perfectly easy, safe, and practicable, and that, although it will not in all cases cure the dis-

ease, it never fails to remove many of the most distressing symptoms attendant upon it.

Dr. PEASLEE said, the opinion he had formerly entertained, that the action of air upon the surface of the pleura was unfavorable, he had now discarded. He referred to a case in which he had injected a solution of iodine. The wound having healed, he repeated the operation of tapping, and injected creosote. The patient could taste the substance afterwards, showing that an opening had formed from the pleural cavity to one of the bronchial tubes.

A physician with whom he was acquainted was in the habit of operating frequently and of using injections. He also spoke of a case of hydrothorax where 85 ounces of serum were evacuated by him at one operation, curing the patient. He never knew a case of empyema cured by one operation. He is not at all particular about excluding air from the pleural cavity, though this may be very effectually accomplished in a very simple manner. A plan which he had employed was the use of a flexible tube filled with water at the moment of introducing it through the parietes of the thorax—(through a puncture made by a trocar of the same size), the distal extremity being at the same time immersed in a basin of water, which was to receive the pus or serum. While this was freely flowing, the tube could be lifted from the water, and a sufficient quantity of the secretion received for examination. The water in the basin being measured before the operation, the amount of fluid withdrawn is at once ascertained. In the operation of paracentesis abdominis, he thinks the danger of admitted air producing peritonitis is very much overrated.

In hydrothorax after the second operation, the discharge is more purulent than the first. Is this owing to the ingress of air? Not necessarily. At the first operation you may have no pus. The fluid is the plastic exudation, or it is serum in some form. Removing the secretion gives the membrane an opportunity to secrete. It is so macerated, as it were, as no longer to be a serous membrane—in function and will not, therefore, secrete true serum. It will secrete pus or something very much like pus. It is far more difficult to absorb pus than serum. He doubted if true pus is ever absorbed. He thinks the same facts apply to hydrops articuli, and to cases where the peritoneum is affected instead of the pleura. He prefers to operate as far back as practicable, unless when there is a bulging point or fluctuation. With his present views he would always put in a tent (if the fluid proved to be pus), and keep it there, and keep the patient mostly on the affected side.

## PART SECOND.

### FOREIGN MEDICAL RETROSPECT.

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#### PRACTICAL MEDICINE.

*Bronzed Skin and Disease of the Supra-Renal Capsules.*—The Senior Physician of Guy's Hospital has recently added to the list of benefits which Medical science had already received at his hands, by the publication of a monograph on the "Diseases of the Supra-renal Capsules." In this work, Dr. Addison, as probably most of our readers are aware, advances the opinion, that destructive disease of these hitherto little regarded organs is attended by most serious constitutional mischief. His views, which are, indeed, the simple expression of his clinical experience, and are supported by eleven carefully narrated cases, may be concisely expressed as follows: 1.—That a peculiar browning or bronzing of the skin is indicative of disease of the supra-renal capsules. 2.—That it may depend on any disease which affects the disorganization of these bodies, *e.g.*, cancer, tubercle, abscess. 3.—That patients suffering from this symptom fall gradually, and without obvious cause, into a peculiar form of debility, which results almost invariably in death within a limited period. 4.—This form of debility is rarely attended by much emaciation, and the subject of it, although with much flabbiness of tissue, retains throughout a general bulkiness of frame which contrasts strongly with his extreme feebleness. 5.—That, usually, no other important visceral complication supervenes. —*Med. Times and Gaz.*

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*Albumen as a Cholagogue.*—Dr. R. Gieseler, of Göttingen, thus writes (*Zeitschr. für Rat. Med.*, 1854, bd. 5):—"I am anxious to call the attention of the profession briefly to the employment of the albumen of hens' eggs in certain forms of jaundice. Bernard's experiments, showing that this substance is assimilable only through the intervention of the hepatic function, immediately suggested to me the idea that in albumen we might find an adequate excitant of the liver. I inferred, first, that fatty nutriment, and in a higher degree albuminous articles of diet, must be avoided in inflammation of the liver; and, secondly, that in torpid conditions of that organ, we might possess in albumen a remedy capable of stimulating it to increased activity. If to the liver be assigned the task of rendering albumen adapted to assimilation, this substance must be a stimulant to it, which will, *mutatis mutandis*, set its function to work in the same manner as the administration of salines does that of the kidneys. It is scarcely necessary to add, that the establishment of these results by experience, must secure to albu-

men not merely the character of an adequate stimulant, but also pre-eminence over all other cholagogues; since the action of the latter is very uncertain. I think it unnecessary to demonstrate the remarkable efficacy of albumen in this respect by the recital of cases, since it was, as I soon learned, already known to our predecessors. It, however, appears to me not unimportant to point out the source whence it would appear the recommendation to employ albumen as a remedy in jaundice was originally derived. Charles White, in his work on the *Treatment of Pregnant and Puerperal Women*, states that he once suffered from jaundice, and was very much reduced. Soap, aloes, iron, and rhubarb, had been taken without the least benefit. A navy officer happening to visit him, assured him he would cure him in a short time. He told him, in fact, that while on a voyage, some time before, he was attacked with the same disease, and had in vain used the remedies prescribed by the surgeon of the vessel. A Spanish physician, of the island of Minorca, then advised him to take every morning, while fasting, two raw eggs, both yolk and white, in a glass of water; and to repeat the dose with an egg every four hours during the day. He followed this advice, and in three days his motions were again colored with bile. White tried the plan suggested, and found the effect attributed to the albumen to be confirmed: in three days, the fæces were colored, which they had not been for six weeks before. He continued the use of the eggs for some months. He subsequently recommended the remedy to several patients, and always with good effect except in cases in which the jaundice proceeded from the effect of gall-stones."—*Dub. Quart. Jour.*

*Treatment of Chorea by Blisters.*—Dr. Max Simon, several years ago, called the attention of physicians to the treatment of chorea by blistering. Since then, in a sanitary official Report, M. Vandesleben has recounted three cases of prompt and permanent cure by the employment of blisters applied upon the arm and neck. Dr. Jensis has also published cases of a cure obtained by the same means, and remarkable from the fact, that the convulsive movements first ceased in the limb where the blister was placed, and finally gave way before blisters placed upon the other limbs and on the neck. M. Delaharpe, physician in Louisberg, has, in his turn, published four favourable observations of this mode of treatment, and makes the following remarks upon the subject: "Chorea being almost always more intense upon one side than on the other, he chose the inferior extremity of the most affected side; for making the first application in the leg the blister was placed below the head of the fibula, and in the arm below the insertion of the deltoid—it was left on until the blister was raised. The first dressing produced ordinarily an increase of the choreic convulsions; but this did not continue, and upon the second or third day after the application, the disordered movements were much mitigated, not only in the limb where the blister was applied, but in the others also. As soon as the first blister had ceased to suppurate, another is applied—its curative effect is more marked than the first, for often all the spasms have ceased in seven or eight days of this treatment. When the chorea is

intense, and of long standing, a third blister will be required; it should be placed upon the neck. This last application is, above all, necessary if the head be much affected. At the end of six or seven days the cure is in general completed—the chorea has disappeared—but in order to avoid a relapse it will be necessary to have recourse to general treatment." M. Delaharpe remarks, that in the cases of thin weakly children the action of the blisters is most beneficial. In the cases of stout, strong children, which, however, are rare, success is less certain. When the spasmodic movements have disappeared, cod liver oil, quinine, and iron are to be administered according to the indications.—*Bul. Gen. de Ther. and Dub. Hospt. Gaz.*

*Linear Cauterization of the Thorax in Asphyxia.*—M. FAURE's proposal is founded upon numerous experiments on animals asphyxiated, in a variety of modes, and on one case of asphyxia by charcoal, occurring in a girl. The actual cautery, he observes, has long since been employed in distinguishing real from apparent death, and for the purpose of resuscitation; but it has not succeeded, owing to the absence of proper method and due perseverance. When properly used, however great the danger, as long as even the feeblest respiratory movements continue, it will establish a favorable reaction, and, to this end, is far superior to all other means. The following are the conclusions arrived at: 1.—When the heart has entirely ceased to beat, or when the pulsations are fewer than three in five seconds, death is certain, whatever may be done; but, except in these very extreme cases, cauterization may restore life. 2.—Deep and long parallel lines must be traced, by a strongly-heated iron, along the upper and lateral parts of the chest, opposite the four or five first ribs, this being the part of the body that longest retains the faculty of being stimulated. 3.—The first effect is a muscular contraction, which is quite local, and without sign of pain: the ribs then move, the thorax enlarges, and inspiration becomes more ample. Sometimes more than a minute elapses before any sign of sensibility can be induced, even by the most intense burn. 4.—When the general sensibility has become aroused, it is of the highest importance to keep it excited for a long time; and to this end flagellation is the easiest and most certain means. It must be persisted in for a long time, and the patient must be well watched. 5.—Frequently asphyxiated persons die after having been restored; but this must be referred rather to the shock sustained by the economy, in consequence of the suppression of respiration, than to the introduction of any poisonous principle, inasmuch as such death has occurred in persons who have not been exposed to any toxical influence, as in those drowned.—*Comptes Rendus.*

*Skins Diseases.* By PROF. HEBRA.—VIII.—*Ichthyosis simplex*, 3 cases, all hereditary. Soft soap applied night and morning for six days, facilitated the removal of the hypertrophied epidermis, but the disease always returned.

IX.—*Lichen*, 16 cases, (10 males, 6 females). Under this term



Hebra places all cases of reddish papulæ, about the size of a mullet seed, which were accompanied with itching, and were generally increased by scratching. In all these cases the disease was removed in a few weeks by the use of baths.

X.—*Lupus*, 43 cases (17 males, 26 females). The face was most commonly the seat of the disease, but it was also observed on the arms and legs. Many of the patients showed traces of previous scrofulous disease, of glandular swellings, or caries. Some of the cases presented a confirmation of the theory adopted by certain French dermatologists, that lupus is dependent on congenital syphilis, as was made out partly by the history of their cases, and partly by the benefit they received from anti-syphilitic treatment. In the other cases the internal use of cod-liver oil, and the frequent local application of solid nitrate of silver, effected the cure of 13 men and 15 women.

XI.—*Pemphigus*, 1 case, a woman, aged 52 years. Like all the cases previously observed by Hebra, it terminated fatally in superficial gangrene and anæmia. The most varied kinds of treatment were unsuccessfully tried.

XII.—*Prurigo*, 54 cases (48 males, 6 females). The treatment consisted in the inunction of soft soap, sulphur, and common baths, and the application of tar, in conjunction with a nourishing diet and washing with cold water. By these means all the cases were soon benefited, and the less severe ones rapidly cured.

XIII.—*Psoriasis*, 33 cases (20 males, 13 females). The treatment consisted partly in the application of external means, namely, warm baths, taken daily for ten hours continuously, soft soap employed in the same manner as in pityriasis (see p. 996), and oil of cade rubbed in once daily; and partly in internal remedies, namely, the Asiatic pills (℞ *Arsenici albi* ʒi; *piper. nigr.* ʒix; *mucilaginis q. s. ut fiant* pill. 800), beginning with one and increasing to three daily, in 2 cases, Pearson's solution (consisting of four grains of arsenate of soda dissolved in four ounces of distilled water), fifteen drops three times a-day, in 5 cases, and Donovan's solution in 1 case. The general result was, that 10 men and 11 women were completely cured, and 4 men and 2 women much relieved. The others were under treatment at the period when the report closed.

XIV.—*Scabies*, 1408 cases (1269 men, 137 women). In men, it most commonly occurred on the hands, and next in order of frequency on the penis, nates, feet, and elbows; while, in women, the order of frequency was as follows—the hands, nipples, axillæ, nates, feet, elbows, and umbilicus. The treatment consisted in the inunction of Wilkinson's ointment, night and morning for two days, to the affected parts, which were then covered with soft rag; care being taken that it should not come in contact with the rest of the body. (This ointment is composed as follows: of common sulphur and tar, each one pound and a half; of chalk, four ounces; and of yellow soap and lard, each one pound). On the third and fourth days, the patients were left undisturbed; on the fifth day they were well washed with soap and water, and then placed in a tepid bath. This treatment was adopted in about 20 cases.

When the disease affected the whole body, or when an artificial eczema had been induced by the improper application of local remedies before admission to the hospital; green soap, a variety of the ordinary soft soap, was applied. When hard patches remained on the nates, or other parts which are exposed to pressure, potash fomentations were employed (3i of caustic potash to 3xx of water). When the eruption was confined to the hands, hand baths of common sulphate were used, in the following manner: one drachm of common sulphate and one scruple of muriate of ammonia are dissolved in a little distilled water, which is then diluted till the whole amounts to six pints; a handful of bran is then thrown in, and the patient inserts his hands, rubbing them well together, when the bran facilitates the destruction of the pustules. These baths, used twice a-day, effected a rapid cure. When obstinate pustules or excoriations, arising from itch, occurred in other parts of the body, this solution was successfully used as a fomentation.

Many of the new methods recently suggested in Germany, and strongly advocated by their respective authors were put to the test, but the results were not so satisfactory as could be wished. Of these methods, Wacherer's was the most successful. It consists in the inunction of oil of turpentine in the affected spots. The number of patients treated in this way was 68; and the average period of treatment till a cure was effected was four days and a half. They were all, however, simple, uncomplicated cases.

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*Pericarditis, with Effusion. Successfully Treated by Tapping and Injection of Iodine.*—Dr. ARAN has reported, in the *Bulletin Therapeut* a case of pericarditis, treated by tapping and the injection of iodine. The patient was a man, æt. 23, of delicate constitution; the signs of pericardial effusion were well marked, the quantity being so great as to cause great oppression; a great variety of remedies had been tried in vain, and it was resolved to puncture the pericardium. The operation was performed with a capillary trocar, in the fifth intercostal space, two or three centimetres from the extreme limit of dullness. About twenty-six ounces of reddish serum were withdrawn, the fluid at first flowing *per saltum*. Great relief followed. An injection of distilled water and tincture of iodine, an ounce and a half of each, with fifteen grains of iodide of potassium, was then thrown into the cavity of the pericardium, and after a few moments withdrawn. No ill effects followed, and twelve days after the same operation was again performed owing to a reaccumulation of fluid. A dram of the iodide was this time used; air entered also, but the operation was successful, as the fluid did not again collect, to any considerable extent.

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SURGERY.

*Tracheotomy in Croup*, By Dr. TROUSSEAU.—I am firmly decided, for my part, not to be discouraged, but to advocate tracheotomy with so much the more conviction, as the proportion of successful cases increase; and if that proportion remained, even as it was ten years ago, I would still proclaim the necessity of tracheotomy, and I would not

cease to uphold it as a duty—a duty as imperious for a surgeon as the ligature of the carotid artery, after a wound of that vessel, even if death followed the operation as often as the cure. Here are the results of my operations for tracheotomy, during the year 1854 :—I operated on nine children. Of these, two died, while seven were cured, and are now living in perfect health. Certainly, the proportion of cured is not always so great; still, if I make the sum total of the operations I have performed in the last four years, I find twenty-four operations, and fourteen cures, equivalent to more than half.

At the Hôpital des Enfants Malades, in the last five years, the proportion of cures has been nearly a quarter. Here are the official numbers, viz :—

1850	.	20	operations	.	6	cures, about 1-3rd.
1851	.	31	"	.	12	" more than 1-3rd.
1852	.	59	"	.	11	" less than 1-5th.
1853	.	61	"	.	7	" only 1-9th.
1854	.	44	"	.	11	" only 1-4th.
		—			—	
215		"			47	" about 1-4th.

This result is considerable, if we remember the social condition of the children who are brought to the Hospital, the deplorable treatment they are subjected to, by "sagefemmes," quacks, etc.; in a word, those persons the poor generally consult in preference to doctors. We should bear in mind, too, the unfavorable condition of the Hospital, where the children operated upon are placed in the midst of the most varied and fatal contagion; so much so, that often, when the operation for tracheotomy is succeeding as well as could be desired, the scarlet fever, measles, small-pox, or whooping-cough, cause the most fearful complications.

I do not doubt that half the operations performed out of Hospital are successful, always provided tracheotomy takes place when the chances of cure are possible. This restriction is important; for, if the diphtheritic infection is thoroughly rooted in the system, if the skin, and particularly the cavities of the nose, are invaded by this special phlegmasia; if the quickness of the pulse, delirium, prostration, indicate a profound poison, and if the danger is rather in the general state, than in the local lesion of the larynx or of the trachea, certainly the operation should not be tried, for it is invariably fatal; when, however, the local lesion constitutes the principal danger of the disease, no matter at what degree asphyxia has arrived, even if the child has but a few moments to live, tracheotomy succeeds invariably, as well as though it had been tried three or four hours sooner.—*Med. Times and Gaz.*

*Unreduced Dislocation of Hip treated by Extension.*—A case of dislocation of the hip, unreduced four months, which we saw under the care of Mr. Cook, at Guy's Hospital, deserves to be noted, as here the plan by manipulation with chloroform, originally mentioned in *The Lancet*, did not succeed in the reduction. A very good limb was subsequently obtained, however by the constant tension of a heavy weight

and traction, so kept up after the violence, unavoidably used under the chloroform, that the new plastic matter, it is conceived, formed a new acetabular cavity over the site of the old one. In very old dislocations of this class, the experience at Guy's Hospital would seem to point to a partial or complete filling up of the old acetabulum, so that even though the surgeon might bring back the head of the bone to its normal position, as was done here once or twice, it will slip again over the rim, or perhaps towards the sacroischiatric notch, the articular cavity being unable to receive it. It was singular that after inhalation of chloroform the foot, in place of being as usual in such cases *inverted* and shortened, had nearly regained its normal length, and was *everted*. Under these circumstances, Mr. Cock placed the leg on a straight splint, and subsequently, when the splint could not be borne, a weight and pulley, playing over the foot-board of the bed, served to keep up extension. For two months this mode of treatment was persevered in, (from the middle of August to the middle of October,) and when we saw the man about to leave the hospital in the first week of November, there was a shortening of the limb scarcely appreciable, the foot was nearly straight, and the patient felt in every way improved.—*Lancet*.

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*Gastrotomy successfully performed for Internal Strangulation.* The following interesting case is from the *Dublin Hospital Gazette*:—A man, 40 years of age, had had from infancy a reducible inguinal hernia in the left side. On the 7th of September, symptoms of strangulation appeared, but without the local signs of strangulated hernia.

12th September (seventh day), the patient was unrelieved; vomiting with constipation continued; the pulse was weak, and the patient greatly sunk; the abdomen was tense and tympanitic; the distended intestines formed prominent swellings. No trace of hernia existed in the inguinal region; the finger could be easily passed into the outer ring. After having been bled, the patient said the old hernial tumor had disappeared; internal strangulation was suspected, and gastrotomy was decided on.

The patient having been put under the influence of chloroform, M. Borelli cut transversely into the left iliac fossa, through the skin first, then through the muscles and peritoneum. A mass of large intestine protruded; no trace of strangulation existed, nor was any hernial sac to be found. The hand was introduced into the cavity of the abdomen, and at last a tight, hard ring was discerned, by which an intestine was strangulated. This was divided with a bistoury, (bistouri de Pott) the intestines replaced, and the wound closed by sutures, etc.

The operation lasted twenty minutes. Relief from vomiting was immediately obtained, but meteorismus and pain continued for two days without any alvine discharges. At last the bowels were freed. On the fourth day after the operation, the patient was twice blooded; on the fifth day, the bowels having been well freed, the patient was much better; his recovery was retarded by an attack of intermittent fever which yielded to quinine, and in the beginning of October he was quite well.—*Gazette Medica Italiana*.

## MIDWIFERY.

*Functional Derangement of the Liver, as a Cause of Uterine Disease.*—The following is an abstract from (*Lancet*) Dr. Mackenzie's paper on this subject. He believes that Hepatic Disease may cause Uterine Disease in three ways:—

First, through the medium of the direct sympathy subsisting between the uterus and the liver; secondly, through the derangement of the assimilative processes, which invariably results from chronic hepatic disturbance: and, thirdly, through the debility of the nervous system, which sooner or latter inevitably follows upon long-continued derangement of any important organ of the body. From the first of this series of causes could be deduced many uterine affections of a variable and casual character, such as hysteria, leucorrhœa, and menstrual irregularity; from the second, many functional and structural lesions of the uterus, of a more fixed and persistent character, such as congestion and inflammatory conditions, indurations, hypertrophies, fibrous growths, certain forms of leucorrhœa, and rheumatic hysteria; from the third, a predisposition to uterine disease generally, the precise character and nature of which would vary with the nature of the exciting and other occasional causes. In connection with this part of the subject, attention was directed to the generally depressed state of the nervous system which accompanies the majority of uterine affections, and this, from various facts referred to by the author, was regarded by him as being rather due to the coincident hepatic than uterine complaint. The latter had, however, received greater attention, because, whilst the liver was an organ of dull sensibility, the uterus, on the other hand, had extensive sympathies with the sensorial parts of the nervous system, and its functional and structural conditions admitted of the closest scrutiny. The treatment of these cases should, in his opinion, be conducted with reference to three principal indications—first, to restore the tone and functional activity of the liver by the persevering employment of small, undebilitating doses of mercury, keeping strictly within the tonic and stimulating range of the remedy; secondly, to improve the assimilative functions generally, by careful attention to dietetic and hygienic measures, together with various therapeutical means, which were cursorily alluded to; thirdly, to restore the tone and vigor of the nervous system, which had been impaired by the long continuance of hepatic derangement. The general means adapted to this purpose were treated of, and the author took occasion to lay before the society some observations upon the remedial powers of amorphous phosphorus in certain affections of the uterine organs, attended with weakness and irritability of the nervous system. He had given it a large and extensive trial in these cases, and in some had found it remarkably beneficial. It could be given in doses averaging from ten to thirty grains, and, although insoluble, it readily diffused itself in water or any aqueous vehicle, and could be conveniently given in that way. It appeared to act as a direct tonic or stimulant upon the uterine system, and when properly prepared could be given without any risk or danger. He had given it with much success in certain cases of amenorrhœa, hysteria, and passive

menorrhagia. He had known pregnancy to supervene upon its employment after a lengthened period of sterility subsequently to marriage, and had found it useful in correcting the tendency to miscarriage when dependent upon morbid weakness or irritability of the uterine organs.

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*Premature Labor Induced by Means of the Douche.*—By G. JONES, Esq.—The first case was a female in her fortieth year, and in her ninth pregnancy. She had been attended in two previous labors by him, and the last was terminated by the use of the forceps; the previous pregnancies had either resulted in abortion, miscarriage, or, in one instance in which she proceeded to the full period of gestation, in being a twin case; the children in all were born with compressed and elongated heads, and generally died soon after birth. There was no deformity of the pelvis, properly so termed, it being of that kind known by obstetricians as the “*pelvis aequaliter justo minor*.” At the expiration of the thirty-second week, July 3rd, 1854, he commenced applying the douche, using first hot and then cold water, by the aid of Higginson's India rubber enema apparatus, to which a small pipe of gutta percha had been attached, so as to be enabled to reach nearer the os uteri; the douches were repeated at intervals of twelve hours, and after the fourth douche pains came on and continued all night, but they subsided in the morning; these did not again occur until after the twelfth douche, and it required a thirteenth douche before they became effectual, and she was safely delivered, at 6 P.M., of a living female child.

He considered, on reflecting on this case, that if the douches had been followed up more quickly after the fourth, when the pains first came on, a more satisfactory result would have followed, and that no advantage had been obtained by alternating the temperature of the water used; consequently, in the next case, he determined to act on these convictions, and, as would be seen, with benefit.

The second case was that of a very short female, aged 28, with a curvature of the spine, and deformed pelvis, in her third pregnancy; she had been delivered in her two previous labors by craniotomy. Her menses ceased January 10th, 1854. August 3rd being the expiration of the thirtieth week, he commenced applying the douche, using, as in the previous case, the flexible caoutchouc apparatus, but only warm water; the injections in this case were applied for the space of a quarter of an hour, and repeated at regular intervals of four hours. Two hours after the fourth and last douche was given, he was sent for, and found the os uteri well dilated, and the membranes protruding to the os externum, and the pains following every five minutes. Labor was completed in another hour, being nineteen hours and a half from the administration of the first douche; the child was a living male.

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*On the Action of Digitalis upon the Uterus.* By W. H. DICKERSON.—The writer commenced his paper by stating that during the month of October, 1854, a patient in St. George's Hospital, laboring under most severe menorrhagia, was cured by the infusion of digitalis, exhibited for the relief of cardiac affection, from which she also suf-

ferred. In consequence of this he had been induced to try the remedy, by the permission of Dr. Lee, in a series of cases of uterine hæmorrhage which had occurred in the hospital. These cases, of which a table is given, were seventeen in number, and the general results of their treatment were as follows :—In every case of uterine hæmorrhage, unconnected with organic disease, requiring the employment of active remedies, admitted into the hospital after October, 1854, the administration of digitalis was had recourse to as the sole treatment, and the discharge was invariably arrested by it. The time which elapsed before the hæmorrhage subsided varied with the dose in which the digitalis was exhibited. When large doses were given, as an ounce to an ounce and a-half of the infusion, the discharge never appeared after the second day; when smaller doses, it never continued beyond the fourth day. In uterine hæmorrhage connected with organic disease, the remedy acted with less certainty; its exhibition was required for a longer time, and the effect was sometimes transient. The author then spoke of the mode in which the digitalis operated in controlling uterine hæmorrhage; and after concluding that its effect could not depend on the sedative influence of the drug in the heart and arteries, he showed, by various experiments and observations, that the arrest of the hæmorrhage was due to the action of the digitalis on the ganglia of the uterus, by which the organ was stimulated, and the muscular substance powerfully contracted.—*Dub. Hospt. Gaz.*

*Does Ergot, when Administered during Labor, injure the Fœtus?*

—DR. R. U. WEST has, in the *Medical Times and Gazette*, tabulated sixty-nine cases of labor, in which Ergot of Rye was administered. The following are a portion of his remarks in relation to this question:

With reference to the probability of the ergot causing the death of the fœtus, I may observe that, in the whole number of 69 cases, there were 9 still-births, viz., in cases 2, 5, 16, 19, 23, 33, 39, 56, 67. All the other children were born more or less lively and vigorous. Of case 25, where the fœtus survived its birth only half-an-hour, I ought to observe that the mother usually gave birth to still-born or similarly feeble children. Certainly, her three previous children were in this condition, no ergot having been given. From this list of 9 still-births we may at once exclude cases 19 and 33, the putridity of the fœtuses in these two cases having proved that they had died some days before the commencement of labor. Cases 5 and 39 were attended with considerable hæmorrhage during or immediately preceding the labor, a circumstance of itself quite sufficient to account for the death of the children. In case 67 the death of the child was undoubtedly caused by pressure on the funis during the difficult delivery of a hydrocephalic head in a case of feet presentation. Four still-births remain to be explained, viz.: in cases 2, 16, 23, and 56. Do the cases just referred to, when compared with the large number in which, under all sorts of unfavorable circumstances, and with a duration of the labor process, under the influence of the ergot, varying from a quarter of an hour to three and four hours, the fœtus was born lively and vigorous, prove anything whatever against the ergot of rye? I certainly think not.

## COMMUNICATIONS AND EDITORIAL.

*Successful Case of Ovariectomy.* By EZRA P. BENNETT, M.D.—We have received a letter from Dr. Bennett, of Danbury, in which he states that he has again operated for ovariectomy, with perfect success. The patient, he says, has recovered without a single unpleasant symptom. "She was an unmarried lady, 23 years of age, of good constitution. The disease was of ten years standing, and the sac, with its contents, weighed twenty lbs. She had never been tapped, which I considered a fortunate circumstance, as I consider the chances of adhesion and subsequent inflammation much less than after tapping. There is, also, more strength to endure the shock of the operation, previous to tapping. Another important consideration in menstruating females is, to operate just after the menstrual flow, when the uterine organs have been thoroughly depleted by this secretion. The operation was performed in the usual manner, with some few exceptions. I made a small incision, three inches only in length—drew out a portion of the sac, and punctured it first with a trocar, then with a knife, and then turned my patient over on to her face, on the side of the table, and in this way facilitated the removal of the contents of the sac. I tied the pedicle with a double ligature, and brought it out at the inferior angle of the wound. I intended, before operating, to dissect off the Fallopian tube, but I found it so vascular that I deemed it unsafe, and, therefore included it in the ligature. The wound was dressed in the usual manner. The patient was enjoined strict regimen, quiet, and with sufficient morphia to allay pain and irritation. Her convalescence was remarkably rapid."

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*Vaginal Hysterotomy twice successfully performed on the same patient.*—Reported by M. C. HOSBROUCK, M.D., of Rockland Co., N.Y. The following letter has been received from Dr. H., which we deem worthy of publication.—[Eds. *N. Y. Jour. of Med.*]

GENTS.—I have been induced to send you the following, by reading in the second edition of Dr. Bedford's "Clinical Lectures," a case of Hysterotomy, which he has published for the second time; remarking, "I am not aware that this operation has ever been performed in this country; at least, I have found no record of it." This may be true, so far as the records go; but Dr. A. Cornelison, of Rockland Co., now deceased, assisted by Dr. Polhamus, performed it twice on the same patient, as far back, if I recollect rightly, as 1835. The leading circumstances of the case, as I received them from the doctor himself, were these. A female, aged about twenty years, was taken in labor with her first child, and, expecting to be delivered without assistance, did not send for the doctor until her sufferings became so severe that she could no longer endure them. An examination discovered a large tumour, supposed to be the head of the child, and so low down as to distend the perinæum, but covered entirely by the uterus and posterior wall of the vagina. For some time no os could be found; but it was finally detected, high up, under the symphysis, hard, and entirely closed. The pains and propulsive efforts of the woman were so severe,



that it seemed as if the child, uterus, vagina, and all were about to be forced into the world. The doctor held back with all his might, and, during a short remission of the uterine efforts, made an incision through all the parts, sufficiently large to allow the child to pass, and through this opening, almost immediately, the woman was delivered of child and secundines. She rapidly recovered, and again became pregnant; and, under precisely similar circumstances, was again delivered in the same manner; and recovered. The incision was made the second time, on the line of the cicatrix of the first, which could be plainly felt. It will be seen that this is a case, not precisely similar to Dr. Bedford's. It was not known that any previous injury had been inflicted, and, although no opening could be discovered in the os, one undoubtedly existed, sufficiently large to transmit the catamenia, as evinced by a second pregnancy. The operation, too, was rather more formidable, at least for the patient,—whether we consider the length of the incision, or the parts divided; and from the same considerations, and the fact of a repetition of the operation, the recovery was more remarkable. I think the case, by itself, of sufficient importance for publication; and whilst putting in this small claim for our obscure little County, believe it the farthest from me to desire to detract, in the least, from the honors of Professor Bedford.

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*American Medical Association.*—The following notice has been put forth relating to the next Annual Meeting of the Association:

The Ninth Annual Meeting of the American Medical Association will be held in the CITY OF DETROIT, Mich., on Tuesday, May 6, 1856.

The secretaries of all societies and other bodies entitled to representation in the Association, are requested to forward to the undersigned, correct lists of their respective delegations, *as soon as they may be appointed*; and it is *earnestly* desired by the Committee of Arrangements, that the appointments be made at as early a period as possible.

The following extracts are from Article 2nd of the Constitution:

“Each local society shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half this number.

“The Faculty of every regularly constituted Medical College or chartered school of medicine, shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital, containing a hundred patients or more, shall have the privilege of sending two delegates; and every other permanently organized medical institution, of good standing, shall have the privilege of sending one delegate.

“Delegates, representing the Medical Staff of the United States Army and Navy, shall be appointed by the Chiefs of the Army and Navy Medical Bureau. The number of delegates so appointed shall be four from the army medical officers, and an equal number from the navy medical officers.”

WILLIAM BRODIE, M.D., Detroit, Mich.,  
*One of the Secretaries.*

*College of Physicians and Surgeons.*—Since our last issue the new building of this institution, at the corner of Fourth Avenue and Twenty-third Street, has been inaugurated, and opened for lectures. The exercises for this purpose took place on the 22nd of January. The opening address was delivered by Edward Delafield, M.D., Emeritus Professor of Obstetrics, and was characterized by much historical taste, and an ardent zeal for the interests of medical education in this city. We understand that Dr. Thomas Cock, former Vice-President of this College, has been appointed President, Vice—Prof. Alex. A. Stevens.

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### OBITUARY.

**DEATH OF DR. S. W. WILLIAMS.**—Died at his residence, at Laona, Ill., on the 14th of July last, Stephen W. Williams, M.D., aged 65 years. For forty years Dr. Williams was a distinguished practitioner of his native town, Deerfield, Mass. In the autumn of 1853 he removed to Illinois, where he continued to reside until his death. To the readers of this Journal he was known, by his numerous practical contributions to its pages; and to the profession generally, by his varied historical, biographical, and literary writings, which alike honor their author and adorn medical literature. In the language of a cotemporary, "he died as he had lived, beloved and respected by all who knew him." In a future issue we hope to be able to present our readers with an extended biography of the deceased.

**DEATH OF DR. JESSE CHICKERING.**—Died at Jamaica Plain, Mass., on the 29th of May last, Jesse Chickering, M.D., aged 57 years. Dr. Chickering will long be remembered as an able and enlightened statistician. In his early studies he prepared for the ministry; but, after leaving college, commenced the reading of medicine, and received the degree of M.D., from the Medical Department of Harvard University in 1833, having presented, for his inaugural thesis, a dissertation on "Scarlet Fever." He entered upon the practice of medicine in Boston, and continued in the profession for ten years; when, finding its duties to interfere with the exercise of his studious desires and habits, he retired from the active exercise of the same, and devoted himself to the preparation of statistical reports, works, etc. As the fruit of his labors in this department of vital statistics, we need only mention his elaborate work on the *Population of Massachusetts, from 1765 to 1840*, and that on *Immigration into the United States*, which was published in 1848. He contributed largely to various periodicals, and rendered essential service to the Senate Committee that arranged the details of the last U.S. census. As before stated, he was a learned and enlightened statistician. Few persons could be in his society without receiving instruction. He was a student in the fullest acceptation of the term, and carried an enthusiasm into his work that was truly remarkable.

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PLATE 1<sup>ST</sup> LOWER JAW AFTER REMOVAL.



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*a, b, Points where the body of the Jaw was divided.*  
*c, Right Condyle & angle in a state of Necrosis*  
*d, Left Condyle ramus & c, with healthy bone covering the Sequestrum*

PLATE 2<sup>d</sup> APPEARANCE OF PATIENT AFTER THE OPERATION.



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# THE NEW-YORK JOURNAL OF MEDICINE

FOR MAY, 1856.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

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ART. I.—*Necrosis of Inferior Maxilla from the Vapor of Phosphorus.—Removal of the Entire Lower Jaw—Recovery—Remarks upon Phosphorus Disease.* By JAMES R. WOOD, M.D. Surgeon to Bellevue Hospital, New York; etc., etc. With Illustrations.

CASE.—Cornelia S., born in Germany, aged 16; admitted into Bellevue Hospital, December 17, 1855. She came to this country at the age of three months; eight and a-half years ago her father died of phthisis; four years ago her mother died of fever. She has enjoyed good health up to the time of her present trouble. Two and a-half years ago she commenced to work in a match factory on Second Avenue, in this city, where she remained six or seven months. She then left this factory and entered another on Norfolk-street, where ventilation was very imperfect. Her business was "packing," the "dipping" being done in another apartment. She continued at her occupation, working eight hours a-day, and feeling perfectly well, until about the 1st of May, 1855. At that time she was seized with toothache, and swelling on the right side of the lower jaw. To relieve it, her gums were lanced, and, finally, the tooth extracted. After this the pain ceased; but the swell-

ing gradually increased, until a spontaneous opening formed on the under side of the jaw, with a discharge of pus, which has continued since. She remained in the factory until one week previous to her admission into the hospital.

Upon examination after her admission, the inferior maxilla was found necrosed on the right side, and partially on the left. Her general health was good. The jaw was painful, and that side of the face swollen. The discharge was at times profuse, and a part of it took place through the buccal cavity, rendering it very annoying. Her appetite was good, but mastication difficult and painful. She never had had syphilis. The necrosis gradually extended, but her general condition remained good.

On the 19th of January, 1856, thirty-three days after her admission, I proceeded to remove a portion of the necrosed bone upon the right side, intending to leave both the symphysis to which the lingual muscles are attached, and the ramus of the jaw. No anæsthetic was used. The patient was placed on the operating table, with her head and shoulders elevated, and her face turned towards the left side. The external incision commenced midway between the angle and condyle of the right side, and extended along and under the base of the jaw, terminating one quarter of an inch below the symphysis menti. The soft parts were next divided, and the periosteum carefully separated from the bone. A chain saw was then passed under the jaw into the mouth, half an inch to the right of the symphysis, and the bone sawn through. The saw was again passed under the jaw, at its angle, for the purpose of dividing the bone at this point, but, unfortunately, on attempting to work it, the chain broke. I now seized the bone at this point with Liston's forceps, and endeavored to divide it, when it was readily discovered, in this attempt, that the jaw was necrosed to its articulation. I then endeavored, with the forceps, to remove the jaw entire upon the right side, and succeeded, with considerable effort, in completely enucleating it from its periosteal covering.

But little hæmorrhage occurred, and no vessel required the ligature. The parts were brought in apposition with sutures, and adhesive strips and cold water dressings applied.

January 20.—Pulse, 90 ; no pain ; slept well last night.

January 22.—Wound dressed for the first time ; a small part had united by first intention, the remainder in good condition ; no pain.

January 26.—Wound entirely healed. An old fistula on the right side, still continues to discharge purulent matter.

While the right side had so greatly improved and apparently left no remnant of the former trouble, the disease was extending upon the left side, involving new portions of the jaw, and giving rise to an immense secretion of intolerably offensive pus. It was, therefore, deemed advisable to attempt the removal of the remaining diseased mass. Accordingly, on the 16th of February, twenty-eight days after the first operation, I removed the remainder of the jaw. The whole of the opposite side I thought dead or dying. At the symphysis it had almost separated itself from the soft tissues, leaving only slight attachments for the lingual muscles. In removing this side of the jaw I designed to leave that part of the symphysis to which these muscles are attached, partly to avoid the liability of the patient's tongue receding into the larynx, but principally to leave an isthmus which should preserve the contour of the chin, and serve as a point of departure for new bone, which would form the periosteum, thus far carefully preserved.

The external incision was similar to that of the opposite side, except that it terminated one-half an inch below and to the left of the symphysis, leaving half an inch of healthy tissue between it and the other cicatrix. The soft parts were next divided, and, with the periosteum was dissected from the bone, both on its external and internal surfaces, as in the previous operation. An assistant now took hold of the symphysis, and a chain saw was passed under the jaw into the mouth, from half to three-fourths of an inch to the left of

the symphysis. My object in sawing through the bone to the left of the mesial line, was to prevent the accident previously mentioned; but, unexpectedly, the moment the bone was divided, the central portion left at the chin escaped from its attachments, by simple enucleation, into the hand of the assistant, and the tongue was immediately swallowed. Respiration instantly ceased, and suffocation impended; but, with a pair of strong forceps, the tongue was seized and replaced, and a ligature passed through it, and secured externally. It was now ascertained that that portion of bone above the angle, was not necrosed, as on the opposite side; but it was decided that the disease could not be arrested, without its entire removal. To complete the operation, the soft parts were separated from the ramus in conjunction with the periosteum, the capsular ligament was opened anteriorly, and a chisel passed over and behind the condyloid process, and by this means the bone was disarticulated. Not a single vessel was tied. The wound was dressed with sutures and adhesive strips. Twenty drops of laudanum were ordered, to procure sleep.

February 17.—Pulse 112; slept well; wound glued together throughout its whole extent; considerable swelling, but no redness or increase in temperature. Left eyelid œdematus and closed. Wound re-dressed with adhesive strips, and lotio plumbi et opii applied.

February 18.—Face much swollen; some pain over region of the jaw; pulse, 135, and irritable; wound united more firmly, except about half an inch near an old fistulous opening, which discharges pus and saliva. Four ounces of wine ordered to be given during the day—and the lead and opium wash continued.

February 19.—Pulse, 100; pain and swelling greatly diminished. Left eye partially open—continue treatment.

February 20.—Pulse, 98; no pain; some œdema of palpebræ. Eye easily opened; wound united by firm adhesions throughout its whole extent; no fistulous openings on left side of the face. Appetite good; diet consists of soups and

farinaceous substances ; unable to masticate solid food—continue the lead and opium wash.

February 21.—Swelling of face nearly subsided ; eye open ; ligature in tongue removed.

February 23.—Swelling entirely subsided. The contour of the face is perfect. All the movements of the tongue, and those pertaining to the jaw, are preserved—such as protrusion of the tongue, lateral motion, deglutition, etc.

From this time until the 4th of March, the patient did well, and every thing seemed to favor a permanent and radical cure. On the 4th, she went out on a visit to her friends. She was thinly clad, and suffered from the cold. The next day, March 5, the left side of her face was swollen, hot, and painful. She had some thirst, a light fur on the tongue, and an accelerated pulse—ordered a cathartic, with lead and opium wash.

March 6.—Patient feels much better ; all inflammatory symptoms have subsided. Two fistulæ have formed in the track of the cicatrix, which are discharging healthy pus—ordered a light flaxseed poultice.

March 12.—Two small pieces of bone discharged through the fistulous openings.

March 20.—Fistulæ entirely closed.

During the progress of the case no unfavorable symptoms appeared. The incisions healed with remarkable rapidity. The patient had a good appetite during the whole time. The contour of the face is preserved with remarkable accuracy. The cicatrices are entirely concealed from a front view, and all the motions pertaining to the jaw and tongue are unimpaired. New bone began early to form, and small pieces have already separated.

The accompanying illustrations exhibit, accurately and beautifully, the appearances of the inferior maxilla, when the different portions of the bone were properly united, and also the amount of deformity which remains after the removal of such an integral portion of the skeleton frame-work of the face.

I take this occasion to acknowledge my indebtedness to Dr. Geo. Amerman, house surgeon to Bellevue Hospital, for his attention to my patient, and the foregoing details of the case.

*Remarks.*—Phosphorus disease, or necrosis from exposure to the fumes of phosphorus in the manufacture of lucifer-matches, was first noticed in Germany. Lorinser, of Vienna, published the first account of this disease in 1845, and reported a number of cases. Soon after, Heyfelder, of Erlangen, and Strohl, of Strasburg, published cases; and in 1847, Drs. Von Bibra and Geist,\* published a separate work. In the following year, accounts of the disease were published in England; and in noticing a case, in the surgical reports of Guy's Hospital (1846-47), of separation and exfoliation of the lower jaw, from exposure to phosphorus, in the manufacture of lucifer-matches it is stated, that the disease was previously noticed to be not uncommon in those working in phosphorus. Mr. Stanley alludes to this disease in his Treatise on Diseases of Bones. Cases have been occasionally reported in English periodicals; and in the *Lancet* for 1850, (vol. i., p. 41,) there is an interesting clinical lecture, by Mr. Simon, on this subject, with the full details of a case. Phosphorus disease does not seem to have been frequently noticed in this country, if we may judge by reported cases; yet the causes exist among us in all their intensity. I am aware, indeed, of but a single case which has been placed on record, and that was observed by Dr. Bigelow, of Boston. That this disease is more prevalent in this country, than might be inferred from this single case, is evident from the several cases appended to this paper, which I have been able to collect, and the case kindly communicated by Dr. Van Buren.

As this affection has not been brought before the American reader in any detail, the following summary of what is known

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\* *The Diseases of the Workmen employed in Lucifer-Match Manufactories, and especially the Affection of the Maxilla, produced by the vapors of Phosphorus, etc.* By F. ERNST VON BIBRA, PH.D., and LORENZ GEIST, M.D. Erlangen, 1847. See also *British and Foreign Med. Chir. Rev.*, 1848, vol. i., p. 446.

of its nature, progress, and results, may not be inappropriate in this connection:—

That phosphorus is the destructive agent in this disease, has been proved by experiments upon animals. Rabbits exposed to the fumes of phosphorus, under circumstances similar to those which determine the disease in man, are similarly affected. Another fact seems clearly established, viz.: the vapor of phosphorus must come into immediate contact with the periosteum or bone, in order to excite the morbid process. This explains, in the first place, why but few, comparatively, are affected who work in these manufactories; and, in the second place, why the lower jaw is more frequently the seat of the disease than any other bone. For it appears that those only suffer who have decayed teeth—the defect in the teeth allowing the fumes of phosphorus to penetrate to the periosteum. So important is this latter fact, that the government of Erfurt has passed a decree, that no person having decayed teeth shall be allowed to work in lucifer-match factories. In a factory in this city, no workman is allowed to return to his work for a week, after the extraction of a tooth.

That particular part of the work which gives rise to the greatest quantity of vapor of phosphorus is the most dangerous to operatives. This occurs in the process of preparing the paste, and in dipping. In the first process, a high degree of heat is necessary, and large quantities of the fumes of phosphorus are given off, which fill the rooms. In the second, the paste is spread upon a metal plate, with a temperature sufficiently high to keep it liquid, over which the dipper stands, and necessarily inhales the vapor which arises. Where the ventilation of the establishment is well conducted, the “dipper” is the only operative affected by the phosphorus; but where the ventilation is bad, and the fumes of the phosphorus, disengaged, not only during the process of mixing and dipping, but also in counting and packing, are confined, workmen engaged in other departments are similarly affected. This fact finds striking confirmation in the history

of lucifer-match factories of this city. In the old factory in Twelfth-street, the ventilation was poor, and the mixing room was in communication with the work room. As a consequence, whenever the paste was prepared, the whole room became filled with the suffocating vapor of phosphorus. In this establishment, phosphorus disease seems to have been not uncommon. In the new factory, the phosphorus room is in a separate building; and so perfect is the ventilation, that there is scarcely a smell of phosphorus in the building. No case has yet occurred in the new factory.

The general effects of phosphorus upon the workmen in these factories, are differently stated by different writers. The German authors do not seem to refer the diseases of operatives to this cause; but, on the contrary, regard the laborers in these establishments, as healthy as those in any other. French writers, however, ascribe to the inhalation of the fumes of phosphorus, certain bronchitic affections under which this class of persons are found to labor. English observers agree with the German, in regarding phosphorus vapor as harmless to the individual; and some even allege that the operatives in these factories, enjoy better health than before entering them. I have not been able to learn that the workmen, in these factories in this city, suffer unusually from bronchitis, or indeed any other affection which could be traceable to phosphorus, except the disease under consideration. Two intelligent medical students from my office, Messrs. Bird and Johnson, have visited the lucifer-match establishments of New York, and have been kindly received by the proprietors, who gave them every opportunity to thoroughly examine the premises. In their report to me, with the appended cases which they were able to collect, the following note is made of the appearances of the operatives:—"They seemed as healthy as those of our cotton factories in Lowell, or our woolen factories in Lawrence, or our flax factories in Andover, Mass."

The peculiar form of disease here considered, is a periostitis. It has been a question,—whether the disease is excited



by direct contact of the phosphorus with the periosteum, or whether it does not first enter the blood, contaminate the system, and secondarily induce necrosis. This question would seem to be definitively settled by the following considerations : 1.—Operatives exposed to the fumes of phosphorus do not suffer from any special or general malady, showing contamination of system, or the existence of a cachexia. 2.—The disease attacks only denuded bones. So well established is the fact, the operative is considered safe until he has carious or extracted teeth.

We consider it established then, that the phosphorus must find access to the periosteum, when the morbid process is set up. It more often affects the maxillary than other bones, for this reason ; and the inferior maxilla than the superior. That other bones are equally affected, when the phosphorus vapor reaches the periosteum, is proved by experiments upon animals.

The frequency with which the different bones of the face are affected in this disease, is exhibited by the following collection of cases:—

Whole No.	Max. Sup.	Max. Inf.	Max. Sup. and Inf.
66.	22.	36.	8.

The pain of the jaw, which ushers in the disease, is generally mistaken for toothache. It is usually slight at first, and intermittent, and is due to the slow process of periosteal inflammation which results in the formation of a lamina of bone beneath the periosteum, and around the old bone. This takes place around the base of the jaw, owing to the gravitation of the exudation from the inflamed periosteum. This, the first stage, is chronic and may be indefinitely prolonged, without causing much inconvenience to the patient. The second stage begins with an attack of acute inflammation in the diseased part, excited by cold, or otherwise ; there is great pain and swelling of the soft parts ; the new formation is destroyed, and discharged, with an abundance of offensive pus ; and the old bone remains a sequestrum in the midst of the products of suppuration, to be subsequently discharged

in successive portions. This stage is attended with great suffering and constitutional disturbance; and not unfrequently patients die from exhaustion during this process of suppuration, or from gangrene of the soft parts. If the disease pass on unarrested, the jaw becomes more and more involved, large portions exfoliate, and the whole finally becomes implicated. Few survive to this period, and a still less number witness the completion of the morbid process, in the discharge of the entire jaw. Mr. Stanley exhibited a patient of St. Bartholomew's Hospital, suffering from this disease, whose entire lower jaw had exfoliated, excepting one condyle.

The prognosis in these cases is very unfavorable. When the disease first comes under notice, the periosteal inflammation has generally long existed, and new formations already separate the bone from its covering. More frequently the suppuration is established, exfoliations of bone are taking place, and the whole morbid process is in active progress. The system now breaks down under the exhausting discharges and poisonous emanations from the jaw; and the miserable subject of this destructive disease, falls a victim to its inroads upon his strength, long before the completion of the process of exfoliation.

The regeneration of bone, in cases where extensive necrosis of the jaw occurs, or where it is entirely removed, as in the present instance is an interesting and practical question. From the investigations of Von Bibra and Geist, we learn that the new deposit derives its nutrition from the periosteum only, and is, therefore, the product of this membrane. Unlike callus, it has no communication of the Haversian canals with the bone upon which it lies, while its medullary canals are vertical to those of the bone. They conclude that the new formation has a lower degree of development than true bone. The following is the average of several analyses of bone and the deposit, made by these authors; and, considering the authority of Von Bibra in the chemical examination of bone, they are worthy of note:—

Bone.		Deposit.	
Organic constituents	31·42	Organic constituents	38·16
Inorganic	“ 68·58	Inorganic	“ 61·84
<hr/>		<hr/>	
100·00		100·00	

The excess of organic matter in the deposit is striking, and it would be interesting to know in what relation this deposit stands to the new bone. Some authors doubt the possibility of new bone being formed in these cases; but the case under consideration proves their reasoning untrue. Although there may not be a complete regeneration of bone, the reproduction has evidently begun, and small portions have already separated. As the periosteum, for the most part, still remains, there seems no reason why new bone should not be formed; unless the peculiarity of the periosteal inflammation excited by the phosphorus prevents it. The fact just stated, that bone, or a substance strikingly resembling it, already exists in the track of the bone removed, refutes the supposition.

The treatment of this affection in the early stage is that adapted to periostitis, and in the later stage, necrosis. Free incisions of the gums, both to relieve the tension which results from inflammation of the periosteum and to procure local depletion, will be required. These incisions should be made wherever there is inflammatory swelling, and freely down to the bone. General antiphlogistic remedies will be useful, according to the condition of the patient. When suppuration is established, tonics should be freely administered, to sustain the general health, and exercise in the open air enjoined; locally, detergents may be used with benefit; such as, gargles containing astringents,—myrrh, or chlorides, as the individual case may demand. These measures, however, are but adjuvants in the process of exfoliation.

In the advanced stages, where necrosis has taken place, and nature is endeavoring to separate the sequestrum, an opposite plan of treatment is indicated. An immense discharge of foetid matter issues from the diseased gums, rendering the patient's life miserable, and disgusting to his attendants; his system gradually gives way, and death almost inevitably

closes the scene, unless art comes to the assistance of nature. In this, the last stage of the affection, surgical interference seems imperatively demanded. I am aware that some surgical authorities advise to leave these cases to nature, and simply sustain the system. But if we had not reason and experience in analogous diseases to guide us in this last extremity, we certainly have in the case already detailed a clinical fact worthy of consideration. The benefit which this patient derived from surgical interference was never surpassed in my experience. The first operation was followed by the most decided improvement of her general condition, and the last has restored her to comparative health. I should, therefore, always advise to remove the dead bone as early as possible, and thus relieve the system of a source of great irritation, which nature labors long and often ineffectually to accomplish. If this is judiciously effected, and the general health preserved, we may confidently anticipate that by a regeneration of the osseous tissue, not only will the deformity be inconsiderable, but the functions of the inferior maxilla will, to a considerable extent, be preserved.

*Case 2.*—(Communicated by Dr. WM. H. VAN BUREN.)—James O'Donnell, a native of this city, 24 years of age, was admitted to the N. Y. Hospital on the 21st of February, 1856, with necrosis of the left side of the lower jaw, accompanied by very considerable swelling, hard to the touch, and presenting the shape and general physiognomy characteristic of necrosis of the lateral portions of the inferior maxilla. He was able to open his mouth to the extent of half an inch only. Several of the teeth were loose, and pus could be forced by slight pressure from around their sockets.

In regard to his general condition, the patient seemed to be suffering from extreme debility; he could hardly arise from a sitting to a standing position without assistance, and walked with difficulty.

On inquiring into his previous history, it was found that he had been employed in (Hyatt's) a lucifer-match factory, on the corner of Broadway and one of the upper streets (36th) for

a number of months—that his health was excellent when he commenced work in this establishment, but had gradually failed ; and that six weeks previously, the soreness and swelling had first made their appearance in the jaw. He stated, voluntarily, that several other persons employed in the manufactory were suffering from complaints similar to his. The factor and difficulty of utterance in this case, together with the low grade of intelligence of the patient, prevented his attendants from getting as thorough a history of his case as they desired.

In view of the recent character of the disease of the jaw, and the bad general condition of the patient, he was ordered cod-liver oil, with iron, and an appropriate mouth-wash ; several of the loose teeth were also removed, and a sympathetic abscess, which had formed below the jaw, was opened. Before the limits of the disease could be ascertained, with a view to relief by surgical means, the patient was removed from the hospital, on the 29th of March—the only changes in his condition comprising an improved state of his general health, and local relief, mainly in consequence of a new outlet for the discharge.

*Case 3.*—Catherine Karker, aged 21, born in Germany ; single, poor, and moving in the lower ranks of life. Her occupation is that of filling match-boxes, at which she has been occupied since nine years of age ; the disease began in the old factory, which was very badly ventilated. The whole lower jaw is involved. The disease began at the second molar tooth ; she had a tooth extracted, and went back to work the same morning. The tooth was but decayed ; and she had it extracted because it pained her. There was no disease previous to losing her teeth. She was under treatment by Dr. Ware, who removed pieces of bone several times.

*Case 4.*—Elizabeth Karker, aged 25, born in Germany ; single, sister of the above. She is occupied in filling frames, and has been thus engaged twelve years. The lower jaw is involved ; the disease has extended throughout the whole

jaw. She says that the bone was removed to the middle of the chin at one operation. It commenced from having a tooth pulled; the dentist tore up a long strip of flesh, about the length of the index finger, attached to a piece of the bone. She entered the factory the next day; and from this date the disease commenced. A part of the stump is left. She had no disease previous to losing the tooth. She is under the treatment of Dr. Ware. An incision has been made at the articulation in a crucial form; the parts appear much deformed. This patient is now well, and pursues her avocation at the same factory, while her sister is still sick.

*Case 5.*—Catherine Brivogel, German; poor, single; aged 19 when disease commenced; it lasted for three years. Her occupation was that of dipper, which she followed nineteen months—during all this time her mouth was sore; she left at the end of nineteen months, and returned again in six months; ventilation of the factory was bad; in her case both jaws are involved; about half of left side of upper, and nearly same on lower, of the right side. The disease began in the upper jaw, about the first molar; she removed, herself, about half of the upper jaw, with the floor of the antrum still *in situ*—this piece she still keeps and exhibits; it has one tooth, the last molar, still remaining. She exhibits, also, thirteen teeth which she had extracted, and which were otherwise perfectly sound. The disease commenced from fracture of the jaw, while having a tooth extracted; there was pain in the jaw, but no disease previous to losing her teeth. She has been under the treatment of various physicians, among whom was Dr. Ware. She is now well, and has four teeth in the remaining portion of the lower jaw.

*Case 6.*—Mrs. Hellman, German; aged 25; when between seventeen and eighteen years of age, the disease commenced, and lasted eighteen months. She was engaged in filling boxes from the time she was a little girl. Her lower jaw was involved upon the left side, from the first canine tooth to the last molar. The disease began from a fracture of the jaw, while having a tooth extracted—she had it removed because it was

crowded ; she then caught cold, and inflammation occurred, followed by a discharge of pus. She had no toothache or pain in the jaw. There was no disease previous to having the tooth extracted. She was under the treatment of Dr. Ware, who removed the piece of bone.

These four cases were all from the same factory.

*Case 7.*—Julia Hatter, aged 20, German ; single, poor ; occupied as dipper for two years ; lower jaw involved ; left side first invaded, extending from first canine tooth backward ; there is a fistulous opening through the skin, and free suppuration. She had a decayed tooth extracted for toothache ; had no disease previous to having tooth drawn. This case is still going on, and is from a different factory.

The following cases are from the same factory as the patient whose case is given at length above.

*Case 8.*—Charles Jacobs, aged 27, German by birth, unmarried ; resident in this country seven years ; has been engaged in a lucifer-match factory five and a-half years. The particular branch of the business in which he was employed was making the paste, on account of which, he was much exposed to the vapor of phosphorus.

His disease commenced, about four years ago, with a simple toothache. This tooth, the last molar but one, was not decayed ; but in the attempt to extract it, the crown was broken off. He returned directly to his work, without waiting for the wound to heal. The pain in the jaw did not cease, but gradually increased in severity. Suppuration was soon after established, and small fragments of bone were discharged. Necrosis of a large portion of the left side finally took place, and a considerable part of the jaw, from the symphysis to the articulation, was removed by a physician. Improvement of the general health followed this operation, and the parts cicatrized perfectly. The disease, however, still continued to extend upon the opposite side, involving new portions of the jaw in necrosis. His general health continued very good ; and he was able to pursue his work, with but occasional interruptions.

At the present time, the remainder of the jaw seems to be involved. The discharge of offensive matter is very great; loose sequestra can be felt along the track of the jaw; the patient's general health is failing, and there is evidence that, if the diseased bone is not removed, the case may terminate fatally before exfoliation is complete.

*Case 9.*—Amelia Miller, aged 21, born in Germany; has resided in this country eight years. She commenced work in the factory two years since, when nineteen years of age, and was then enjoying robust health. She was employed in cutting the matches and filling boxes. The disease commenced with a toothache. She applied to a dentist to have the tooth extracted, and in the attempt the tooth was broken off with a portion of the alveolar process. Her face swelled considerably, but she returned immediately to her work.

From this time, the disease seems to have gradually become developed, the pain grew more severe; suppuration was established, and matter was freely discharged from the gum, by the side of the teeth. Dead bone finally made its appearance in the diseased jaw, and large sequestra were removed from time to time. In this manner, the whole maxillary bone on the right side, extending from the symphysis to the angle, has been removed, and there remains a very firm cicatrix, covering a hard cartilaginous or bony rim, occupying the original position of the bone. All the teeth on the right side of the lower jaw are gone; but all motions of this part are well preserved.

The disease, however, is not arrested; upon the left side it is still extending, and gradually involving the healthy periosteum, and inducing necrosis of the remaining portion of the jaw. Her general health, which improved after the removal of the diseased mass, is now very good, but is, evidently, yielding to the renewed drain upon her system, and the constant irritation which she suffers. Unless the entire diseased bone be removed, there seems little hope that the disease will be arrested, short of complete destruction of the lower jaw.

2 IRVING PLACE, NEW YORK.



ART. II.—*Analysis of Doubtful and Spurious Cases of Hydrophobia.* By J. LEWIS SMITH, M.D., Physician to the Northwestern Dispensary.

(Concluded from page 233.)

#### DOUBTFUL CASES.

THE doubtful cases which are embraced in the following table, need not occupy much of our time. When the nature of the affection is uncertain, an analysis will, obviously, yield little valuable information; and we shall consider those cases only which present interesting features.

TABLE IV.

Doubtful Cases.							
No.	Sex & Age.	Part Bitten.	Incubation.	Duration of Prod.	Disease.	Result.	Authority.
1	M. Ad.	....	....	Few h.	30 h.	Fatal.	Dr. Whymper, <i>Med. and Phys. Jour.</i> , 1825.
2	" 40	Fing'r.	5 or 6 w.	No Prod.	4 d.	"	M. Leiville, <i>Med. Chir. Rev.</i> , July, 1827.
3	" 17	....	9 d.	....	2 h.	Recovered.	Dr. Arnell, <i>Med. and Phys. Jour.</i> , vol. iii.
4	F. 21	Wrist.	17 d.	1 d.		"	Cha's. E. Smith, M.D., " " vol. v.
5	M. 30	....	Often bitten.	....	....	Fatal.	Dr. Buett, <i>Jour., Coropt. Forn.</i> , xxiv.
6	" Ad.	Leg.	25 d.	....	4 or 5 d.	Recovered.	M. Ozanam, <i>Gaz. Med.</i> , Jan'y., 1831.
7	" "	"	1 m. & 8 d.	1 d.	$\frac{1}{2}$ to 1 d.	"	H. Covell, <i>Lond. Lanc.</i> , Aug., 1826.
8	" 12	Thigh.	4 m.		14 d.	Fatal.	C. Davis, " " Aug., 1827.
9	" 30	....	3 m.	....	Few d.	Recovered.	Dr. Williams, " " May, 1829.
10	" 19	Hand.	9 y.	....	....	"	Dr. McCarthy, " " Sept., 1835.
11	" 10	Leg.	10 y.	2 d.	4 to 6 d.	"	R. S. Ackerley, " " July, 1848.
12	" 17	....	7 y.	3 d.	2 d.	Fatal.	Dr. Burne, <i>Med. Gaz.</i> , April, 1838.
13	" 17	....	2 $\frac{1}{2}$ m.	2 h.	5 d.	"	" <i>Gaz. des Hop.</i> , 1853.
14	" 14	Toe.	3 y. & 4 m.	7 d.	2 d.	"	James Mease, M.D., <i>Med. Rep.</i> , vol. v.
15	" 5	Cheek.				"	Dr. Rush, " " vol. i.
16	" 28	Leg.	24 d.	Few d.	4 d.	Recovered.	Dr. Barton, " " vol. ii.
17	" 40	Hand.	3 w.	....	....	Fatal.	Prof. J. Harrison, <i>West. Lanc.</i> , 1842.
18	" Ad.	....	3 y. & 3 w.	1 to 2 d.	2 d.	"	W. Stockbridge, <i>Bost. Med. and Sur. Jour.</i> , 1842.
19	F. 41	....	....	....	3 d.	"	R. R. Hills, " " 1846
20	M. Ad.	Leg.	3 w.	Few d.	2 d.	Recovered.	M. Fuller, " " 1850

In several of the above cases, the disease was developed immediately after some excitement or exposure. Thus, the first patient in the table was seized after a bath, which he had taken in a state of perspiration, and Dr. Buet's patient, after a debauch.

In case VIII. the fatal disease was pneumonia, and the symptoms referable to hydrophobia occurred during the first five or six days of his illness.

Cases X., XI., and XII., if genuine, were remarkable, on account of the long incubative periods. The first of these, who was bitten by a dog supposed to be rabid, suffered an attack of what his physician called hydrophobia, three months subsequently to the reception of the bite. From this time till his final sickness, that of which the records treat, he experienced similar attacks each spring, and occasionally in the autumn. In all, the symptoms were the same, consisting of spasms, "preceded by a sense of suffocation, tightness across the chest, and a heavy weight at the epigastrium." Currents of air, and drops of water falling upon the body, produced the phenomena characteristic of true rabies. But it is very improbable that a disease occurring annually, and sometimes semi-annually, for so long a period as ten years, was the canine madness. Probably it was a simple nervous disorder.

Patient No. XI. was excessively frightened, believing that he was the victim of hydrophobia. Quite likely the hydrophobic symptoms were, to a considerable extent, the result of fear.

In case XII. the real complaint was probably inflammation of the larynx and pharynx, as the patient was constantly struggling and moaning, and as the principal morbid appearance, discovered after death, was an intense injection of these organs.

Patient No. XIII. was a cretin. This young man died apparently of hydrophobia, but on account of the incompleteness of the records, there is doubt as to the nature of his malady. During his illness his mind was unusually clear, his expressions accurate, and he spoke of events which had happened years before, and to which, at the time, he gave little attention.

## SPURIOUS CASES.

That certain other diseases may be, and have been, mistaken for hydrophobia, even by careful diagnosticians, the best authorities admit.

Sir Astley Cooper says (Lect. XLIII., *Lond. Lanc.*), "A man, some years ago, had symptoms resembling hydrophobia. He never had been bitten, and, on examination after death, the œsophagus, behind the heart, was found greatly inflamed: the symptoms were not of hydrophobia, but of inflammation of the œsophagus."

Andral (Lect. XVI., 1832), speaking of the dread of liquids, remarks, "it may consist solely of one symptom, the horror of swallowing fluids, a simple nervous perversion of no serious character. At other times it may be accidental, originating in a perturbed state of the functions of the nervous system: this constitutes a symptom of some other diseases, as is seen in hysteria, in many fevers, especially in those of an ataxic character, in some of which it may even be a predominant symptom. Inflammation of the œsophagus and may, again, pharynx be accompanied by true hydrophobia." By the expression, "true hydrophobia," Andral evidently refers merely to the symptom and not to the disease.

Prof. Trollet, of Lyons, in his *Traité de la Rage*, adds, "There exists a great number of examples of cerebral irritations, continued or intermitting, with horror of liquids, and which have been confounded with hydrophobia properly speaking." More authorities might be cited to show the danger of mistaking other affections for hydrophobia, but it is better to present cases, that we may know precisely what these diseases are, and how close the resemblance.

*Case 1.*—Dr. Barbantini, of Lucques, relates the case of a person bitten by his own dog, which immediately disappeared. He was much alarmed, as he supposed the dog rabid. The disease made its appearance, and for four days the patient could neither swallow fluids nor solids. On the 9th day the dog returned in perfect health, when he was immediately let into the bed-chamber of his master, whom he caressed as

usual. From that moment the hydrophobic symptoms vanished (*Lond. Lanc.*, Apr. 1827).

*Case 2.*—This patient, a young man of twenty-four years, stated that he had never been bitten. On the 4th day of Oct., 1841, after a ride of fourteen miles, he was seized with pain across the chest, and difficulty of breathing. These symptoms soon subsided, and he ate a hearty dinner; but they returned at eight in the evening.

On the following day he was conscious, but could not speak. The sight of water increased his distress, and he experienced a spasm of the larynx, causing crowing inspiration.

On the third day his general condition was better, but the right arm had partially lost its power, and slight spasms were noticed of the muscles of the face and lower extremities. On the fourth day these symptoms had all disappeared; and his health was re-established, with the exception of transient attacks of dyspnoea.

The records state that this patient was predisposed to spinal complaints, and that when pressure was made over the lower cervical vertebræ, there was a marked exacerbation of symptoms. He was treated by venesection, and by an issue on each side of the vertebræ (J. Kimball, *Lond. Lanc.*, Feb. 1837).

The inability to speak, crowing inspiration, the increase of symptoms when the spine was pressed, and the result of treatment, show clearly that he suffered simply an affection of the spinal cord.

*Case 3.*—This patient, a lady of thirty-two years, was bitten by a dog supposed to be rabid; and, four days after, when her danger was intimated to her, was seized with extreme fear. On the eighth day she was excited and irritable, especially on seeing or touching water, and her speech resembled that of one intoxicated. Her symptoms increased till she had no control over herself, and manifested an inclination to bite. She finally became convulsed, foamed at the mouth, screamed and groaned like one insane. Recovery

took place after copious venesection, and large draughts of vinegar (M. Dubedat, *Gaz. Med.*, May 2, 1834). There can be little doubt that these symptoms were the result of extreme fear.

*Case 4.*—This patient, M. Buisson, was a physician, who had been attending a lady affected with hydrophobia, and had inadvertently cleaned his hands with a towel which she had used. Nine days subsequently, he was seized with pain in the throat and eyes; currents of air and bright objects distressed him, and he felt an inclination to bite. Drinking was difficult, and the sight of liquids not easily tolerated. These symptoms were paroxysmal. M. Buisson, believing that he had an attack of hydrophobia, took a warm bath, which gave immediate relief (M. Buisson, *Repts. Acad. Scien., Paris*). The occurrence of these symptoms so soon after the supposed inoculation, and their prompt disappearance by the bath, which in ordinary cases of hydrophobia is likely to increase the suffering, lead us to think that this patient suffered simply a nervous disorder. Besides there is no proof that one person can communicate hydrophobia to another.

*Case 5.*—A young man disappointed in love, and suffering the effects of a debauch. At first he had epistaxis, and delirium followed the arrest of the hæmorrhage. Eight days subsequently he was admitted into L'Hôtel Dieu, under M. Magendie. At this time his speech was embarrassed; he had convulsive attacks, and attempted to bite, if a polished surface or drinks were presented. In the beginning of his sickness he had lucid intervals, but towards the close of life, which occurred eight days after admission, delirium was constant. He was treated with transfusion, a pint and a-half of warm water being injected into the veins (M. Magendie, *Archiv. General*, Nov. 1832). The duration of the disease, the delirium, the embarrassed speech, and the fact that he had not, so far as was known, been bitten,—all show that this disease was not hydrophobia; but most likely mania a potu, or delirium from disappointment.

*Case 6.*—A lady of twenty-five years, and bitten by a dog

which soon after died of hydrophobia. Three or four days after the injury was received, learning the condition of the dog, she took fright, became feverish, and agitated almost to convulsions, and constantly ejected saliva. From the eighteenth to the thirtieth day these symptoms gradually diminished; but from the thirtieth to the fortieth, increased,—when quinine, calomel, and opium were given, and she recovered (Prof. Recamier). In none of the genuine cases embraced in our first table, was the incubative period as short as six days; besides, the history and symptoms of this patient show that her sickness was due to intense anxiety.

*Case 7.*—A young man of twenty years, and bitten by a mad dog, five or six years previously. His disposition was irritable, and he was subject to spasmodic attacks. He came under treatment by Baron Larrey for a sprain of the right foot, and, as he wished to be discharged from military service, took pains to make his complaint worse, so that sphacelation ensued, and the leg was amputated. Thirty days after the operation the secretions were suppressed—the jaws became locked, and repugnance was shown to transparent drinks. The muscular rigidity increased; and death took place on the third day from the commencement of these symptoms. (Baron Larrey, *Clinique Chirurg.*) The tonic character of the spasms in this case, shows that the disease was rather tetanus than hydrophobia; and I am at a loss how it could have been mistaken for the latter.

*Case 8.*—The Editors of *Schmidt's Jahr.*, and of the *Medico-Chirurg. Rev.*, into which the article was copied, believe that this patient died of hysteria in its severest form. She was sixteen years old—never had the catamenia, and never had been bitten. She was taken with severe pain in the abdomen; with great constitutional disturbance, and difficult deglutition. The sight or presence of liquids caused no unpleasant effect. On the following day the upper extremities were rigid; and in the evening she experienced general convulsive agitation. The tongue was protruded—the larynx drawn forcibly upwards, so as to threaten suffocation—delirium, with lascivious

expressions and behavior, supervened; and death closed the scene at 9 P.M.—*Medico-Chirurg. Rev.*, April, 1838.

*Case 9.*—A man of thirty years, and bitten by a healthy horse three years previously. His sickness terminated fatally, after nine hour's of great restlessness and suffering. His respiration was laborious and accelerated, conjunctiva congested, and pupils contracted. The symptoms were not paroxysmal. (Dr. Flogel, *Oest. Med.*, copied into *Med. Times*, Feb., 1845.) This patient evidently suffered an inflammatory disease of the respiratory organs—probably, of the larynx.

*Case 10.*—A lady of twenty-two years; had never been bitten—but, two weeks before the attack, she was frightened by a dog which she suspected to be rabid.

After several days of melancholy, she dropped down suddenly, as if in a fit. Her eyes were wild and distorted—her limbs affected with spasms, and she made attempts to bite. The paroxysm lasted about ten minutes, when she became quiet, and was induced to go to bed. Immediately, another attack came on, in which she tore her clothes, sprang out of bed, and attacked the by-standers with such impetuosity that they fled from the room.

These paroxysms recurred frequently, and attempts to swallow brought on spasms. Her skin was dry, eyes dull, and cheeks flushed. She, for a time, made no reply to questions; but, at length, declared that she was well. The physician bled her to syncope, gave calomel and opium, and, by 4 P.M., the paroxysms had ceased. She slept quietly the following night, and, except the prostration, was entirely well the next day. She had no recollection of her sickness. (Dr. Laschke, *Bibl. der Prac. Heil.*, 1827.) This case, published as one of spontaneous hydrophobia, was obviously a distinct affection. Her falling, as in a fit, the flushed cheeks, the distortion of eyes, the inability or disinclination to speak, show that the disease was rather allied to hysteria than hydrophobia.

These cases teach us that extreme dread of hydrophobia, or the belief on the part of the patient that he is its victim, may produce intolerance of liquids and of bright objects,

difficult deglutition and respiration, and increase the flow of saliva (Cases I., III., IV., and V.) They teach us that spinal affections may produce spasm of the larynx, dyspnœa, and aversion to drinks (Case II.) We are taught, too, that delirium, and a state resembling hysteria, may be accompanied by convulsive agitation and attempts to bite (Cases V., VIII., and X.) and that certain inflammatory affections, especially of the throat, may give rise to so much restlessness, dyspnœa, and dysphagia, as to be mistaken for true hydrophobia (Case IX.) Probably, with care, a differential diagnosis can be made in most instances.

#### PREVENTIVE TREATMENT.

A list of all the medicines which have been recommended in the professional journals, as well as public prints, as sure preventives of hydrophobia, would be tediously long. Some of these have been substances entirely inert; some, nostrums; and many of them, mixtures as complex and disgusting as those prepared by fabulous Circé, or the witches in *Macbeth*. It hardly seems possible, though true, that the Legislature of our own State once purchased the prescription of a so-called preventive, consisting of the pulverized jaw-bone of a dog, the false tongue of a newly-foaled colt, and verdigris from the copper coins of George I. or II. (Thacher); and this nauseating compound was extensively used.

It is difficult to determine the real value of any kind of preventive medication, from the fact, that a large proportion of those bitten by rabid animals do not take hydrophobia, whether treated or not. Still, it will be profitable to note what success has followed prophylactic measures.

In the *London Medical Gazette*, for July, 1830, it is stated that hydrophobia was epidemic, in and around Stockholm, in the year 1824, and that 106 persons, bitten by animals supposed to be rabid, came for treatment to the Royal Hospital, under the care of Dr. Ekstrom. The wounds were deeply scarified, washed with warm water, muriatic acid, or a solution of muriate of lime, then thoroughly cauterized, and,



finally, poulticed. The efficacy of the treatment was strongly illustrated in "the case of a young man, who was bitten, with ten others, by a rabid dog; they immediately applied for assistance, and all escaped." But he, regarding the wound as too trifling, paid no attention to it, and after three weeks fell a victim to hydrophobia.

Of the 106 treated in the hospital, only one took the disease. This was a young man, bitten with several others who immediately applied for assistance. He postponed calling till next day; and eighteen months afterwards died of hydrophobia.

In the *Medico-Chirurg. Rev.* for Jan., 1826, it is related that, at Zurich, since 1783, the following treatment has been pursued:—The wounds are scarified, and then kept discharging for six weeks, by cantharides. Meanwhile, mercurial frictions are employed till salivation ensues. Every second day, for three weeks, pulv. bellad., grs. v., are administered to an adult, or, as a substitute, if the patient apply soon after the infliction of the bite, calomel. He is kept in bed for a month, and denied animal food. Of 233 patients treated in this way, only four took the disease.

It is stated in the same journal, that the treatment recommended by Wendt consists in keeping the wound open for six weeks, by powdered cantharides, and at the same time ptyalizing. Of 106 treated in this way, only two fell victims.

Many other instances might be cited of preventive treatment, by medicines and by local measures, but I am not aware of any where the number treated was so large, or the result more satisfactory, than in the above cases. The treatment, both at Stockholm and Zurich, and by Wendt, was certainly remarkably successful, if all those patients were bitten by rabid animals. It is worthy of note, that not only was the local treatment in all these cases thorough, but the result was as good with this alone, as when medicines were administered.

It seems to me that the exhibition of powerful drugs, for the purpose of prevention, ought to be discountenanced.

for our statistics have shown that measures, which debilitate or disturb the economy, should be avoided, as agencies having this effect may be exciting causes of hydrophobia. The plea for the use of mercurials is, probably, that they may eliminate the poison from the system as in syphilis, but in the absence of any proof of this, there can be no justification of the prolonged use of such potent substances, according to the practice at Zurich, and by Wendt. As a purgative, or even as an alterative, administered till the gums are slightly affected, mercury may, perhaps, in some instances be of service; but, further than this, its employment can be regarded only in the light of mal-practice.

Though we deprecate the use of powerful medicines for prevention, gentle medication is often of great service. The records present several instances of a postponement of the disease, when symptoms indicated its near approach, by mild measures, which corrected some derangement or irregularity of the functions. Thus the administration of a laxative, in more than one case, gave temporary relief from the premonitory symptoms.

But the chief reliance of the physician, for the prevention of hydrophobia, is on local treatment; and such was the treatment, mainly, of the few cases in our collection, in which precautionary measures were resorted to. In eighteen of these, the bites were cauterized; in five, excised; in one, sucked; in five, washed, either with vinegar and water or a spirituous lotion; and in one, the finger which was bitten was amputated. It is evident that local treatment, to be effectual, should be promptly resorted to. In one of the above cases half an hour had elapsed; in two, one and a-half hours; and in eight, from one to five days; while in the remaining cases the time of treatment is not mentioned.

If the animal inflicting the bite appear to be rabid, it is better to err, if we err at all, in treating the wound too thoroughly, than in doing too little. Still, we ought not, evidently, to adopt measures so harsh, or so protract the treatment, as to cause constitutional disturbance, after the tenth day; for this might develop the disease.

The best local treatment seems to be excision or free scarification; and then, if the position of the bite will allow, the application of a cup to promote the discharge of blood. Suction by the mouth should not be attempted, as it is pretty well established that the poison may be absorbed through unbroken mucous surfaces; lastly, cauterization and poulticing. Now the question arises, whether the wound should be allowed to heal, or be kept open till the usual incubative period has passed. The records show that when hydrophobia begins, cicatrization has usually taken place; and if not, the discharge dries up or is scanty. We have seen, too, that in one instance in our collection of fatal cases (No. 78), there was a mitigation of the symptoms after hydrophobia commenced, and a protraction of the complaint for the usual period of nine days, apparently in consequence of the establishment of free suppuration from the wound. We have seen, moreover, that of the six favorable cases, in three excision or scarification was performed, and in one a spontaneous reopening took place, with apparent relief, after the characteristic spasm had appeared. These facts, if they do not justify keeping the wounds open during the usual incubative period, render it advisable to reopen them the moment they become the seat of any unusual appearance or sensation.

While upon the subject of preventive treatment, a word should be said in reference to the remarkable statement of Dr. Marochetti, a distinguished Russian physician, published a quarter of a century since. This observer declared that, from the third to the ninth day after inoculation, pustules appeared under the tongue, containing the hydrophobic virus, and if these were laid open and the mouth rinsed the disease would not appear. Most subsequent observers, who have looked for these pustules, and have denied the truth of Marochetti's assertion from their inability to find them, have made the mistake of examining during hydrophobia instead of within the first nine days of the incubative period. Even Dr. Thomas Watson, generally so accurate, has fallen into the

same error in his work on Practice; for he states that English physicians called to patients with hydrophobia have not been able to find the eruption.

Although Marochetti has been misunderstood, I am convinced, from an examination of the cases on which he based his opinion, that he was deceived. These patients, at least those whose records I have perused, were ill with headache, nausea, or other ailments, at the time the supposed pustules were found; whereas those really inoculated pass the incubative period in good health. Dread or expectation of hydrophobia will sometimes increase the secretion in the mouth and fauces as we have already seen; and it is probable that, in these cases, mucous follicles enlarged by their activity were mistaken for pustules.

Patient No. VI. of the spurious cases treated by Prof. Recamier, was excessively frightened when she found that she had been bitten by a rabid dog. The mouth soon began to fill with the secretion; and on the seventh, eighth, and ninth days there was an appearance of pustules under the tongue. So in case of M. Buisson already narrated, who evidently suffered a spurious affection, the same sublingual appearance was noticed.

There can be little doubt, then, that the theory of Marochetti, so beautiful and promising so much, was founded on an erroneous observation, and is to be classed with those numerous delusions which, in all ages, have gained admittance and temporary favor in the science of medicine.

That the various nostrums, which have been recommended from time to time as preventives, are not reliable, is apparent from the fact, that no one has had a permanent reputation. They have done harm, by giving a delusive sense of security, and causing rational treatment to be neglected.

*Treatment.*—An obscure, rapid, and commonly fatal disease is apt to receive heroic and complicated treatment. The history of Asiatic cholera affords a melancholy illustration of this, and not less does that of hydrophobia. A brief review of the medicines given and measures employed in the

treatment of the cases which we have analyzed will teach us some useful and interesting facts.

Blood was abstracted from thirty-three of the patients in our table of fatal cases, the amount varying from 3x to 3cxxx taken at intervals. The effect of venesection was sometimes to moderate the spasms, in consequence, probably, of the exhaustion. In some instances it seemed to shorten life, death speedily following. In the favorable cases the lancet was not used.

One of the patients, treated in Guy's Hospital, had his arm, which bore the cicatrix, amputated thirty hours after hydrophobia began ; but when reaction was established, the paroxysms were more severe than at first.

Transfusion with warm water was practiced in six cases, the quantity injected varying from 3iv. to 3xxiv. This treatment either caused a severe hectic fever, or prostration with quick and feeble pulse. In two instances death speedily followed.

A mercurial, for the most part calomel, was administered in twenty-six of the fatal cases, without any obvious effect upon the disease—salivation sometimes resulting, added to the suffering of the patient. Mercurial inunction was occasionally prescribed, but rubbing the surface, whether with ointments or liniments, generally produced spasms—so that it was necessary to desist.

In forty-two cases, an opiate was administered. When given in large doses, it occasionally produced sleep ; but the spasms afterwards were none the less severe.

Anæsthetics, generally chloroform, were inhaled, in twelve cases. The vapor arising from them increased, at first, the spasms ; but when the system was under their influence, the paroxysms ceased—to return, however, when the anæsthetic effect had subsided. In the advanced stage of the disease it was necessary to discontinue the treatment, on account of the secretion ; which, collecting in the throat, threatened suffocation.

Besides the remedies mentioned above, belladonna, hyos-

cyamus, conium, hydrocyanic acid, acetate of lead, strychnine, tobacco, turpentine, carbonate of iron, guaco, Indian hemp, aconite, scutellaria,—in fine, a large proportion of the articles in the *materia medica* were employed, but without appreciable benefit in any instance.

Stimulants were administered in only ten of the one hundred and thirty-one fatal cases; and in these not in quantities sufficiently large to enable us to judge of their effect.

There was nothing unusual in the internal treatment of the six favorable cases. It is worthy of note, however, that no remedies were administered to them more debilitating than purgatives, and one patient took stimulants.

Amid this confusion in the treatment of hydrophobia, what shall a physician do when called on to manage a case? Shall he bleed, shall he mercurialize, as most have done, or shall he stimulate, or shall he, as Marshall Hall advises, keep the patient quiet, and do nothing? A consideration of the symptoms, effect of treatment, and especially of the mode of death, and the post-mortem appearances, will throw light, I think, on the therapeutic requirements. The patient is extremely sensitive; he lacks refreshing sleep; his spasms are terrific, under which the strength rapidly yields, and his death is finally by asthenia. On opening the body, we find no uniform lesion of the organs; but the blood is unusually dark and non-coagulable, its vitality being destroyed by the poison. Ordinarily, in cases of toxæmia, it is not the approved practice to prescribe debilitating measures; and why in hydrophobia? In the one hundred and thirty-one fatal cases, which we have examined, the remedial agents, with a few exceptions, exhausted, instead of sustaining, the vital powers; and how rapidly did death ensue? I know no fact, no argument, in favor of such treatment—but, on the other hand, were brandy and beef tea freely administered, a larger number might, perhaps, be saved. The difficulty of swallowing does not preclude treatment—for stimulating, and nutritious enemata can easily be administered.

The employment of opiates, anæsthetics, and purgatives, appears to be judicious, as adjuvants. Ether is, probably, preferable to chloroform, as it is thought to be less depressing and less dangerous. Some of the patients who inhaled the anæsthetic were kept under its influence for many hours; and, in this state, if not totally insensible, were able to swallow. The inhalation should, obviously, be discontinued as soon as the spasms are checked. As purgatives sometimes relieved the premonitory symptoms, there is reason to think they may be of service during hydrophobia.

Little need be said of local treatment in hydrophobia, after what we have stated upon this subject under the head of "Prevention." If there are local signs or symptoms, as swelling or redness of the cicatrix, or an unusual sensation in or near it, good may be anticipated from scarification or excision. This treatment seemed to be of more service than anything else in the favorable cases in which it was practiced. But when the disease has no local manifestation, and becomes entirely constitutional, little good can be anticipated from such measures. Thus, we have seen that even amputation of the affected limb, in Guy's Hospital, entirely failed to arrest or modify the complaint.

In conclusion, the following deductions may be added to those already published:—

23.—The blood, in hydrophobia, is unusually dark, and its coagulability diminished. It is apt to escape from the vessels, forming ecchymotic patches, and to settle in depending portions of the body. There is no uniform lesion of the organs—but they present a vascular appearance. Occasionally emphysema is found in the anterior cervical region, and in the anterior mediastinum.

24.—True hydrophobia is probably never spontaneous in man.

25.—In rare instances hydrophobia has a favorable termination. The proportion of favorable to unfavorable cases, under the usual treatment, is about as 1 to 22.

26.—It is probable that an enraged but healthy animal

cannot communicate hydrophobia. We have seen that animals when apparently well, may impart the disease (Deduction VIII.), but that they usually become rabid afterwards. When, as very rarely happens, they remain in good health, it is probable that the poison in them is not sufficiently intense to develop paroxysms, or that it is rendered innocuous to them by the hygienic conditions in which they are placed.

27.—There is no well-authenticated and unexceptionable instance on record, of the communication of hydrophobia by man to man.

28.—Among the affections likely to be mistaken for hydrophobia, are a nervous condition induced by dread of the disease, spinal affections, hysteria, delirium, and certain inflammatory affections, especially of the throat. Dread of hydrophobia may produce intolerance of liquids and of bright objects, difficult deglutition and respiration, and increase the flow of saliva; spinal affections may cause spasm of the larynx, dyspnœa, and aversion to drinks: delirium and hysteria may be accompanied by convulsive agitation and attempts to bite, and in inflammatory affections of the throat, may give rise to such restlessness, dyspnœa, and dysphagia, as to be mistaken for true hydrophobia.

29.—Powerful medicines should not be administered for the prevention of hydrophobia, as they may be exciting causes of the disease; but gentle medication which corrects any obvious derangement of the functions, is of the first importance. The best local treatment appears to be excision or free scarification, immediately after the injury is received; then, if practicable, the application of a cup, to promote the discharge; and lastly, cauterization and poulticing. The bitten part should be re-opened, whenever the cicatrix presents an unusual appearance, or becomes the seat of an unusual sensation.

30.—The treatment of hydrophobia, as commonly pursued, exhausts, instead of sustaining, the vital powers. Venesection was practiced in thirty-three of the one hundred and thirty-one fatal cases, while stimulants were administered in only ten, and in these in a hesitating and inefficient manner.



And yet the symptoms, the effects of treatment, the ordinary mode of death, and the post-mortem appearances indicate the need of highly stimulating measures.

31.—As adjuvants, opiates, anæsthetics, and in some cases, probably, purgatives are beneficial, if judiciously administered.

32.—It is advisable, in the treatment of hydrophobia to reopen the wound, if the conditions mentioned in deduction twenty-nine are present. On the other hand if there be no local manifestation of the disease, no good can be expected from local measures.

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ART. III.—*Dislocation of the upper extremity of the Radius.* By J. P. BATCHELDER, M.D. Read before the New York Medical Association.

THIS bone belongs to the hand, and was by the older anatomists called the handle of the hand. It is the principal agent in regulating the pronation and supination of that organ. Its head, confined in its place by the orbicular or annular ligament, and in juxta position with the external condyle of the humerus, is not easily dislodged, except by direct violence, or by a fall on the hand, and then only under circumstances which seldom occur; consequently its displacement rarely happens. It may take place either anteriorly or posteriorly. The circumstances to which we have just alluded relate to the former,—they are a violent pronation of the hand applied to the ground or to some fixed point—a forcible extension of the forearm—a strong propulsion of the shoulder forward, with an inclination or canting of the body backward. This, with the action of the pronator radii teres, and the biceps flexor longus, causes the dislocation inward or forward. Direct violence or some of these circumstances reversed, occasion the dislocation of the head of the bone backward. This form of dislocation sometimes takes place in consequence of the gradual elongation of the ligaments, especially in children—in this way :—When a child much led or often

lifted by the hand or wrist, and carried along with the arm extended, or pitches forward, the arm is rotated in one direction, while the hand is held fast or turned in an opposite direction by the person having hold of it. This practice stretches, weakens, and elongates the ligaments of the joint, and impairs its motion; which leads to an examination—when the bone is found partially or completely luxated. It is also occasioned in early life by sudden violence; somewhat, however, in a similar manner:—The child is taken by the hand and lifted with a jerk from the ground and carried along. It cries violently—is supposed to be slightly hurt or angry; but sooner or later the elbow joint is discovered to be tender, inflamed, and painful, with its motion much impaired. The surgeon called—not discovering the precise nature of the hurt—pronounces it a sprain; prescribes a lotion, rest, etc., and leaves the child to get well as best it may. When the inflammation and swelling have subsided, the real nature of the injury stands confessed; but the surgeon does not, however, succeed in remedying the mischief: yet flexion, extension, and rotation are much less impaired, than might have been expected.

In the adult the dislocation forward is, I believe, always the effect of violence, and is considerably more disastrous in its consequences, but is very rare; so much so, that Desault doubted its occurrence even in the cases related by Duverney, and others; and if my memory be not much at fault, that distinguished surgeon was induced to deny this luxation altogether, till its reality should, by new proofs, be more certainly established.

Mr. Samuel Cooper ignores this form of dislocation, while Boyer declares that “the upper extremity of this bone can only be luxated backwards.”

Mr. Liston says, “sometimes the radius is displaced forwards;” but he does not describe this luxation or give any directions for its reduction, but tells us that “in luxations of the radius backwards, flexion, and pronation, combined with extension if necessary, will generally effect a replacement;” but I have not found this to hold good in practice.

Sir Astley Cooper has seen six cases only of the dislocation of the radius forward. In two of which the reduction was not effected. The first was a female, a patient of Mr. Cline, in St. Thomas' Hospital. "The most varied attempts which his strong judgment could direct, were made to reduce the bone, but it could not be replaced; and the woman was discharged from the hospital, with the dislocation unreduced." "The second case was a lad, to whom I" (says Sir Astley), "was called by Mr. Balmanno, of Bishopsgate-street; and although I made attempts, by continuing and varying the extension in every direction, for an hour and a quarter, I could not succeed in effecting the reduction. The third case was that of a hair-dresser, who, being intoxicated in the evening, came to my house the following morning with his radius dislocated; during the time of examination the patient became faint, and at last fell upon the floor in a state of syncope. This I thought afforded me a most favorable opportunity for replacing the bone, while he was still upon the floor. I rested his olecranon upon my foot, so as to prevent the ulna from receding, and then extended the forearm, and, under these favorable circumstances, the radius returned to its natural situation." But for the "state of syncope" into which the patient had fallen, Sir A., who extended the forearm, would probably have failed to reduce the bone.

In the next case, making "extension from the hand without including the ulna, he succeeded in a few minutes."

In the fifth case, no reduction was had—the preparation is "in the collection at St. Thomas'." The sixth was one exhibited by "a gentleman of high character at the bar." "It had happened many years before, and numerous and most violent attempts had been made to reduce it, without success." Sir Astley adds:—"What is here stated upon this subject, I have usually given in my lectures, carefully explaining the difficulty in restoring this bone to its situation; and after an evening's lecture, Mr. Williams, one of my most intelligent pupils, said to me, "I have known the radius reduced in these accidents, by extending from the hand only." "I was con-

vinced," says Sir Astley, "that the mode of extension Mr. Williams mentioned was the best; as from the connection of the hand with the radius, that part alone is acted upon, and by excluding the ulna from the force applied, the radius sustains the whole extension." "The hand should be rendered supine, as this position draws the head of the radius from the upper part of the coronoid process of the ulna, upon which it is otherwise directed, and then to draw the fore-arm, by pulling the hand and fixing the os humeri." Since the publication of Sir Astley Cooper's work on dislocations and fractures, the mode of reduction suggested by him has been practiced by our most intelligent and experienced surgeons, but with very indifferent success, or frequent failure. It has fallen to my lot to see a number of these cases. The first came under my observation in 1811 or '12. Its nature was made apparent by its characteristic sign, the striking of the head of the radius against the humerus on flexion, which puts a sudden stop to that movement, with the jar or concussion, which announces to the surgeon that one bone has been forcibly impelled against another. The fore-arm and hand were in a state of supination, caused mainly by the action of the supinator brevis, which was put on the stretch by the displacement of the head of the radius forward. Flexion, extension, pronation, and supination could be only very imperfectly executed.

On account of the anatomical connection of the hand with the radius, and the ulna being in place, the extending power was applied to the hand only, but nothing seemed to be gained whether the arm was extended or flexed, while efforts at reduction were being made. In fact, the head and neck of the radius seemed to be drawn down to the ulna, at the inside the lesser sigmoid notch, about in proportion to the degree of force employed in making the extension. I need hardly say, that no reduction was effected. Although flexion and extension, pronation and supination, were considerably curtailed; yet the man ultimately acquired a fair amount of motion, so that the usefulness of the limb was very little abridged, a result I have uniformly observed, in other

alike unfortunate cases. Not long after, I described this case to Dr. Josiah Goodhue, an experienced and distinguished surgeon, then of Chester, Vermont, but subsequently of Hadley, Mass., for the purpose of ascertaining his views in regard to the treatment of such an accident; and had the pleasure to be informed by him, that he had found out or discovered a method by which the reduction could be readily accomplished—which was this:—Suppose the left elbow to be the seat of injury—the surgeon should take the hand of that arm in his right hand (palm to back) and grasp the elbow with the other, with the thumb placed on the inside, and a little above the head of the radius. The fore-arm should now be forcibly extended or straightened, and the hand no less forcibly supinated, and the head of the radius pushed downward and outward by the thumb placed on it for that purpose. As soon as it has descended to a level with the articulating surface of the external condyle, which it readily does, the hand should be carried rapidly and forcibly upward, crossing the arm in a direction external to the acromion process; the head of the bone, being at the same time pushed vigorously outward, slips into its place.

This method, Dr. Goodhue informed me, had always succeeded with him, and it has always done so in my hands, and I believe in the hands of every other surgeon who has tried it. With me it has succeeded in several cases of some weeks standing. After reduction, the accident is apt to recur, unless the arm is kept in a flexed position. To secure the patient against all chance of recurrence, I have applied the rectangular splint—taking care to have passive motion impressed on the limb after the first fortnight; not, however, allowing any of the motions to be performed, but to a limited extent, until near the end of the fourth week.

When the head of the radius is dislocated backward, the hand is turned prone, and the member can neither be fully flexed nor extended. In order to effect a reduction, the method just described must be reversed. The surgeon should take the patient's hand in his, palm to palm—pronate as much as

possible, and then bring the forearm to an acute angle with the arm, the patient's hand being carried inward across the upper arm in a direction towards the middle of the clavicle—the thumb of the surgeon's other hand should then be placed just above, and on the outer or back side of the head of the radius, which is, in this way, made to advance downwards and forwards to a level with the articulating surface of the outer condyle of the humerus—the limb should now be strongly and rapidly straightened, and the hand supinated, when the head of the bone, upon which pressure has been firmly made, will return to its natural situation. I once found it expedient, in the case of a strong muscular man, to place both my thumbs on the head of the radius, and have the other movements impressed upon the hand and forearm by an assistant who was instructed, by manipulating the well arm, what to do.

In this variety, the luxation is very apt to recur, unless proper care and attention be observed to prevent it, which is effectually done by the angular splint, bandages, etc.

These dislocations, I am convinced, occur more frequently in the "rural districts" than in cities, which accounts for the fact that Sir Astley Cooper, and the other distinguished surgeons alluded to, had seen so few cases. In describing the symptoms presented by this accident, Sir Astley tells us that the hand is pronated, which is exactly the reverse of what has occurred under my own observation. It is, to be sure, natural enough to suppose that the hand would correspondingly follow the movement of the radius and be pronated, when that bone was luxated forward and inward, unless we recollect that by this change in the direction of the bone the supinators, particularly the supinator brevis, would be put on the stretch, which would cause supination of the hand. So in the dislocation of the head of the radius backward, the pronator radii teres and biceps flexor longus, and perhaps the pronator quadratus, would likewise be put on the stretch, and bring the hand to a state of pronation. When this accident (dislocation forward) has happened, neither pro-

nation nor supination can be fully performed by the patient, or effected by another; but when it has been caused by great violence, or when much force has been applied in efforts at reduction, and the parts about the seat of the injury have been consequently much torn and broken up; the hand may become considerably more pronated than it would otherwise have been, or be the more easily made to assume that position: but for the circumstances just mentioned, supination is the necessary result of this form of dislocation, and it is to be presumed that they operated with full force, in the case related by Sir Astley Cooper, and also in that recently given by Mr. Tagert, senior surgeon to Mercer's Hospital. If I am not much mistaken this is the position represented by the plate in Sir A.'s work on Dislocations and Fractures.

*Dislocation of the Thumb, at the Joint connecting the first Phalanx with the Metacarpal Bones.*—This luxation has long been the opprobrium of surgery. Violent efforts at extension have been made, and even the thumb actually torn off, but reduction has been seldom accomplished. The uniform failure of the ordinary mode and means of reduction prevailed on Blandin to invent a pair of forceps, (known in all our shops as Blandin's forceps,) for making the extension more effectual; but, so far as I have had an opportunity of knowing, these and all the other methods have generally failed, unless the lateral ligaments of the joint were divided by a subcutaneous incision, as suggested by Sir Charles Bell. Most surgeons among whom is Sir Charles Bell, and Mr. Hey, impute the difficulty to these ligaments, between which the head of the bone is forced, and by which, being put thus on the stretch, it is steadfastly retained; they seem, however, to have forgotten or overlooked the fact that there are two sesamoid bones, lodged one on each side of this joint in the tendons of the flexor brevis pollicis, between which the inferior extremity of the metacarpal bone is forced forward and "projects very much inward, towards the palm of the hand, and the extremity of the phalanx projects backward." In this displacement, parts of the flexor brevis are put on the stretch, which,

acting like extensors, draw the proximal extremity of the phalanx upward along the posterior surface of the metacarpal bone and fix it there: hence, every attempt at extension, only makes the matter worse. How, then, is this difficulty to be overcome, and the reduction accomplished? Not by extension, of course; but, in the following manner. The surgeon should take the metacarpal portion of the dislocated thumb, between the thumb and finger of one hand, and flex or force it as far as may be into the palm of the hand, for the purpose of relaxing the muscles connected with the proximal end of the phalanx, particularly the flexor brevis pollicis. He should then apply the end of the thumb of this hand against the displaced extremity of the dislocated phalanx, for the purpose of forcing it downwards, and at the same time grasp the displaced thumb with his other hand, and move it forcibly backwards and forwards, as in strongly forced flexion and extension, the pressure against the upper extremity of the first phalanx being kept up. In this way the dislocated bone may be made to descend, so as to be almost or quite on a line with the articulating surface of the metacarpal bone, when the thumb may be forcibly flexed, and—if it be not reduced—as forcibly extended, and brought backward to a right angle with the metacarpal bone, when, if the downward pressure, with the thumb placed as before directed for that purpose, has been continued, (which thumb, by maintaining its position, acts as a fulcrum, as well as by its pressure,) the bone will slip into its place, and the reduction be effected in less time than has been spent in describing the process. I derived the first hint of this procedure from hearing an empyric, somewhat noted as a bone-setter, describe the process by which he had succeeded, in a similar case. This occurred about the time I commenced the study of medicine, and from the manner in which it was told, the relation has never escaped my memory; but from his being considered somewhat of a quack, and, moreover, a professional braggart, it was not subsequently analyzed or acted on, until after I had failed in a case of the kind. That failure induced me



to investigate its causes in the dissecting-room, which brought up a vivid recollection of the statements of the bone-setter; and the consequent analysis of the anatomical relations of the parts involved, resulted in the adoption of the method just described, which I believe will always be attended with prompt success, especially in recent cases; and also in those of considerable standing, say a week or two.

This method of reduction is the one which I have been in the habit of teaching and practicing for many years, and I was not aware that it had ever been practiced by any other person, with the exception of those who may have learned it, directly or indirectly, from me, until within a few days past, (June 6th,) my eye accidentally fell in with an article (No 129) in Ranking's Abstract, which was published by John Doe Esquire, M.D., of Cabot, Vermont, in the *American Quarterly Journal of Medicine*, April, 1853. His directions are very similar to mine, and were undoubtedly original with him, but not exactly so with me, having originated in the statement of an empiric, but modified, I trust, by the suggestions of science.

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ART. IV.—*The Treatment of Fractured Limbs by the "Plaster of Paris Bandage"* of N. PIROGOFF, of St. Petersburg, Russia; with a Case. By GUSTAV C. E. WEBER, M.D., of New York.

IN the "*Deutsche Klinik*," of the year 1854, I find an extract from a monograph which appeared written in Russia's native tongue, by N. Pirogoff, on a new method of bandaging fractured limbs with linen soaked in a solution of plaster of Paris. As I have not the original work, I give the extract in the way it appeared in No. 18 of said journal:

"That method of bandaging in the treatment of simple fractures, merits above all to be selected, which keeps, in the best and most accurate manner possible, the fractured ends in unmovable contact, and replaces by this, manual extension and coaptation.

"In the treatment of complicated fractures, that bandage merits the most consideration, which leaves the lacerated portion of the soft parts uncovered, and still fulfills its purpose.

"Above all bandages and apparatuses, the '*starch bandage*' of Seutin, fulfills in the best way, both indications; but still, this bandage has also its disadvantages. It dries very slowly; the extension has to be kept up a good while; its walls contract; the application, in general, is tedious and long; the application of openings in complicated fractures is difficult, and on the battle-field, where a quick bandage is wanted, it can, under no circumstances, be used.

"A short time ago, the plaster of Paris bandage, which for many reasons is preferable to the method of Seutin, was proposed and used, modified, in Belgium; but the mode of application by Mathiesen and Van der Loo is too tedious and troublesome; the bandage is not durable; and the preparation and keeping of the different pieces, offer even more inconveniences than the starch bandage.

"Prof. Pirogoff, of St. Petersburg, has imitated the art of the sculptors, who use for the formation of the folds of robes linen soaked in a plaster of Paris solution, and applies now, with great success and saving of time and expense, this mode in the treatment of complicated and simple fractures.

"The material consists of an inferior quality of plaster of Paris and old sack linen. The way of bandaging is simple, and is achieved three or four times quicker than the one with starch.

"The application of bandages for a fracture of the femur in the lower third, takes about five minutes.

"The plaster of Paris bandage gets hard and dry nearly immediately, and, therefore, no further manual coaptation and extension is necessary. Only with oblique fractures of the thigh and of the neck of the femur a prolongation of extension will be needed, for perhaps the short time of one or two hours.

"The greatest advantage of this method is the simple way

of application of large openings or windows, where great mutilation of the soft parts exist.

“The following articles for bandages are wanted :—long, old, hospital stockings, opened at the seam—old drawers, jackets, or waistcoats of linen. For fractures of the thigh,—belts which can go round the pelvis one and a-half times ; old linen, cotton, and cushions filled with lint or flax (to fill up depressions round the ankles, etc., etc.); splints of different lengths, out of two to three layers of the coarsest linen, and strips of the same material.

“The splints must be two to eight fingers broad, and a little longer than the injured limb ;—the strips ought to be two to ten inches broad, and reach two to three times round the limb.

“At last a quantity of plaster of Paris, perfectly dry and finely pulverized, and cold water, with brushes, are to be kept in readiness.

“It takes some practice to make the solution not too thin nor too thick, so that it dries neither too slowly nor too fast. Equal parts of water and plaster will be the best proportion. When the application of the bandage takes up more than ten minutes, a few drops of carpenter’s glue will retard the process of hardening, for a quarter of an hour and longer. On application of the plaster of Paris bandage, the injured limb is first covered with dry linen ; the depressions and projections are filled with cotton ; extension and coaptation are made *lege artis* ; and then the splints, soaked in the solution, are applied lengthways close to the limb, and fastened crossways by the strips. Instead of the strips, a roller can be used, which has to be covered with the solution by means of a brush, gradually, throughout the time that it is applied.

“At the exterior margin of the limb the splints are applied ; so that a small space of an eighth in width is left open. A piece of tape soaked in oil marks this space. The strips are also oiled crossways, in their middle, so that the solution is not taken up there—the oiled parts must fit the line of the tape ; in this way, a small space is left open, and un-

covered by the plaster of Paris, so that the bandage can either be made tighter, by application of a new roller, or easily cut open, to be removed. The plaster of Paris bandage is well adapted to the quick construction of capsules, for the transportation of the injured."

I have now had two cases of fracture; one of the femur, and one of the tibia, where I applied Pirogoff's bandage, and in both cases, I am satisfied with the result; so that I prefer this mode of bandaging to any other I have myself used, or seen used, in the hospitals of Vienna, Paris, or Berlin.

My first case happened with a boy from nine to ten years of age; and was an oblique fracture of the upper third of the femur, produced by a fall on the thigh, from a height of eight feet.

I saw the case, together with Doctors Nelson Steele and E. Elliot, both of which gentlemen kindly assisted me, and allowed me to try the new bandage. It was applied the fifth day after the accident,—the inflammation being, meanwhile, subdued by application of cold, and by the perfect coaptation of the fragments, by extension and counter-extension. To achieve the latter, I applied the simple method which I have seen Jobert de Lamballe,\* at the Hôtel Dieu, frequently use for the treatment of fractures.

After having examined and measured the injured limb attentively, so that we were sure that there was perfect coaptation, I commenced by applying a roller of thin, smooth flannel, filled the depressions with raw cotton, and, with the same, leveled all projections; after this was done, I applied a small splint of pasteboard, half a foot in length, over the fractured point, and fastened it with a dry linen roller.

Then the linen splints, soaked in a solution of plaster of Paris, were adjusted, and the whole fastened—first, by a layer of strips, and, next, with a linen roller, both covered with the solution. The bandage was dry and hard, like a rock, in

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\* Jobert treats all fractures, so far as I know, with extension, by means of weights, connected with a roller to the foot; and by counter-extension, through the use of a strap, carried between the limbs, over the groin of the injured one upward to a fixed point on the bedstead, without any other bandage whatever; the limb laying open, but smooth, on a good hair cushion.

about a quarter of an hour ; no further caution to our restless little patient was necessary, and he could easily roll about in his bed.

Five weeks after the application of the bandage, I removed it, and found to my gratification, perfect union, and no shortening whatever of the limb.

With my second case I succeeded in the same manner ; and as my proceedings were the same as in the first case, with the exception, that here I applied the bandage for the fracture of the tibia, it will not be necessary to repeat them. I only add, that I prefer to cover the limb first with a roller of flannel, and not with linen—the former adjusts itself more smoothly to the parts, and can be applied much tighter, without producing depressions in the skin.

I also think it beneficial to apply one small splint just over the fracture, in transverse as well as in oblique ones, because this keeps the fragments closely together, until the bandage is perfectly dry, which does away with any further extension, etc. Without this splint, the least little movement of the patient would disarrange the apposition of the fragments if no manual coaptation is kept up.

These are the only small modifications I made use of in the application of “Pirogoff’s Bandage ;” otherwise, I consider it perfect in all respects,—and every one who has tried it will readily admit it to be so.

In complicated fractures, I have not had a chance to use this bandage, but I found, in trying it on the phantom, the application of openings or windows very easy.

WEST 22ND STREET.

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ART. V.—*Cases of Poisoning by Arsenic.* By JAMES WALSH, M.D.  
Franklin Avenue, Brooklyn.

Case 1.—Sunday, June 10, 1855, A. B., Classon Avenue, Brooklyn, a stout man, aged 23, purchased two hundred and forty grains of arsenic, “for poisoning rats,” as suicides generally say, and swallowed it. He then rinsed the cup and swal-

lowed down the dregs of the poison. Arsenic was written on the envelop of the drug, and poison on a second envelop; he was duly cautioned about the effect of it, in the drug store; but he took it very coolly and went to work to commit suicide quite deliberately. He had taken breakfast at 6, A.M., and took the arsenic at noon. A girl saw him take the poison, and alarmed his friends, who made him swallow some melted butter and common salt, and instantly sent messengers to the drug store, and for medical aid. Within an hour after he had taken the poison, I saw the case with Dr. Betts and Mr. Evans. A drachm of sulph. zinc produced very free vomiting. A portion of this matter, on subsequent examination, was found to contain arsenic. The carbonate of iron (in molasses) was given in ounce doses, and allowed three minutes to act on the arsenic, then evacuated, by half a drachm of zinc dissolved in a pint of warm water. This was repeated six times before the arrival of the hydrated sesquioxide, which was kindly furnished from the laboratory of the Marine Hospital. A burning pain in the stomach, of which the patient complained, and the restless nervousness, and pinched face that accompanied the pain, disappeared on his swallowing the first dose of the hydrated oxide. The amount of it given in the dose was eight fluid ounces. This was followed by the zinc as above mentioned and repeated in doses of four ounces every five minutes, until there was good grounds for believing the arsenic nearly all neutralized and removed. To prevent the evil effects of any portion of the poison that should have chanced to pass the pylorus, I gave four ounces of the antidote, followed by one and a-half ounces castor oil. The oil not only acted freely on the bowels, but it carried the iron before it through the whole intestinal canal, thus neutralizing every particle of the arsenic, and soothing the irritated mucous membrane. The man was about his business next morning, and has had no bad symptoms since. The quantity of the hydrate used was about two pints, and the carbonate previously given in molasses, made the whole about forty-eight ounces. He used two ounces of zinc.

*Case 2.*—June 30, 1847, M. N., Grand-street, New York, aged 25, rather delicate and of a bilious habit, a tailor, took six hundred grains of arsenious acid, and recovered without one bad symptom, by the same treatment. The ordinary tea-spoonful of arsenious acid weighs one hundred and fifty grains, but in this case the young man heaped the spoon three times, and drank the whole of the arsenic, on water. I afterwards made him fill the same spoon in the same way, and, on weighing the amount, found in each spoonful two hundred grains, in all six hundred grains. He mistook the arsenic for cream of tartar, and had no idea of suicide. He had breakfasted that morning at 8 A.M., took the arsenic two hours after, dined at noon, and having learned the dangerous mistake he had made, he called on me at a quarter past twelve. The carbonate of iron and molasses being the readiest antidote by me, was used in ounce doses, followed by sulph. zinc, until I obtained the precipitated hydrosesquioxide. The treatment was precisely like the foregoing, and the quantity of iron, zinc, and oil, very nearly the same. The bowels were very freely moved; the stools black with the iron and molasses, but not a bad symptom remained; and he was to work the next day. The arsenic remaining in the paper was examined, and some of the vomited matter, and both gave satisfactory proof of arsenic to the tests.

*Case 3.*—A man was brought to the City Hospital, N. Y., about the same date as the above case, said to have taken a large quantity of arsenic. The zinc and carbonate of iron were used freely, and the case saved. The quantity of arsenic taken was not discovered.

*Case 4.*—A woman took half an ounce of arsenic, in Jersey City, to kill herself; crossed the ferry to New York; the police were informed of her attempt; took her up; brought her to Dr. Scoville, of the police force. The treatment was nearly the same as above described, and no inflammation or trouble followed. In these cases there was no stupor, or convulsions, which writers have maintained to be present in all cases where large quantities of arsenic are taken.

*Case 5.*—Oct. 6, 1847, H. R., Division-street, N.Y., aged 40. A strong, stout man; had been subject to occasional fits of insanity, and had often threatened to poison himself. I was called to see him an hour before his death, and probably nine hours after he had taken the poison. He had had convulsions, and resisted successfully all attempts to pass any matter whatever into his mouth.\* The post-mortem examination showed a good deal of inflammation in the stomach and rectum; around the pylorus was the most vascular portion, both of stomach and duodenum; the lungs were congested; the liver paler and less vascular than in ordinary cases; a pint of fluid was found in the stomach, which, on being tested, gave the usual arsenical appearances. The action of the arsenic in this case was very prompt. He left his home at 10 o'clock A.M., in his usual health, returned at 2 P.M., and died at 6 P.M.

*Case 6.*—M. B. aged 26; residing corner Church and Warren Streets, New York, purchased half an ounce of arsenic, "to kill rats," at a neighboring store. She swallowed it at 3 o'clock P.M., resisted all efforts that were made to relieve her, and died at 11 o'clock, P.M.

*Case 7.*—J. H., aged 37, a carpenter, residing in Fifteenth-street, near Sixth Avenue, New York, came home from his work at 8 o'clock, the 8th of Dec., 1848. He got a bowl of soup containing arsenic. He remarked the taste to be bad; vomiting and purging set in. A doctor was called at 5 A.M. next morning, and while writing a recipe for cholera medicine, the man died. Prof. Reed, of the City Hospital, found two drachms of arsenic in the stomach and its contents.

*Case 8.*—A. M., Grand-street, New York, aged 14; swallowed half an ounce of *Fowler's Solution*. I was called in half an hour after the accident had occurred. An ounce of the tincture of iron, and one ounce of liquor potassa, mixed, was given in doses of a table-spoonful, followed by sulph. zinc every five minutes, for six repetitions of the dose. The burning pain ceased. Another dose of the iron, followed



by an ounce of castor oil, operated freely, and left the patient quite well.

*Case 9.*—A. B., Broome-street, New York, aged 6; took two tea-spoonfuls of *Fowler's Solution*, and soon complained of pain in the stomach, and vomiting. Two ounces of tincture of iron, and half an ounce of carbonate of soda, mixed, was administered in tea-spoonful doses, every five minutes, followed by ten grain doses of sulph. zinc in warm water, until she had taken an ounce of the iron mixture. Two tea-spoonfuls of the iron mixture and half an ounce of castor oil finished the course. Next day my little patient was quite well.

*Remarks.*—The foregoing cases point out the benefit of the early evacuation of the stomach by the quickest means obtainable; the great power that the oxides of iron have in preventing the absorption of the arsenic, and in preventing inflammation of the mucous membrane of the stomach and intestines; the absence of danger in giving so much iron and zinc, and producing such violent vomiting as must necessarily ensue, show how easy it is to prepare an antidote, and useful the iron and castor oil purge is, as a finale to the treatment.

The ordinary red-brown preparation of iron, known as the carbonate, and sub-carbonate, in the drug stores, (being, in reality, a sesquioxide of iron, with a trace of carbonic acid,) is the readiest preparation for the practitioner, in cases of emergency; and may be depended on, if given in sufficient quantity. Dr. Brett found ten times the quantity of the iron antidote unequal to neutralizing one of the arsenious acid.

Dr. MacLagan found it necessary to use twelve parts of the hydrated oxide to one of arsenic, to form the insoluble arsenite; and sixty parts to one, when used in the dry state. Devergie states, that it requires thirty-two parts of the oxide of iron to one of arsenic, to render it insoluble. Taylor used twenty fluid ounces of a mixture of hydrated sesquioxide of iron on sixty grains of arsenious acid finely powdered, and found that

it did not form an insoluble arsenite—the arsenic was easily detached, undissolved, and unmixed, when the sediment was dried on a glass plate. All that is dissolved, however, he admits, is turned into an insoluble arsenite, by the iron. Christison thinks the antidote must contain ammonia, and, hence, the usual preparation is precipitated by it. The ammonia renders the arsenic soluble, and then the sesquioxide acts on it promptly. Muriatic acid renders arsenic very soluble; hence the benefit of the ordinary tincture of iron saturated with the common carbonate, and as soda and potass also render the arsenic soluble, they answer the same purpose. But to use them without the iron, would, therefore, be most destructive; and hence the objection that would be naturally felt against using the common salt emetic, without the antidote being present. The iron acts decidedly and promptly on the arsenic in solution, but the arsenic acts most decidedly and promptly in that way also, and with far greater rapidity and power than it does in its ordinary state of powder.

Fowler's solution acts with more energy than the arsenious acid in its dry form, requiring very prompt treatment. A tea-spoonful of Fowler's solution contains one-half to three-fourths of a grain of arsenic—the fluid drachm containing half a grain. A case is reported in the *Medical Gazette*, No. 39, where two and one-half grains of arsenic killed a stout, healthy woman, of nineteen years of age. Three grains will generally prove fatal to an adult, and half a grain will produce the burning pain, inflammation, vomiting, redness of conjunctiva, etc., usual in arsenical poisoning.

Taylor states, that three drachms of Fowler's solution will kill an adult. The time of death does not seem to bear any relation to the quantity taken. A child dies in two hours after being poisoned by a small dose; four or five grains caused the death of an adult in four hours; an ounce killed an adult in seventeen hours. A woman took two ounces, and in one hour after, a doctor cleared the stomach of its contents, and in one hour more she died. The mere emptying the stomach, therefore, is not enough. The nervous action may destroy the

patient after the poison is removed. The arsenic, if taken in small quantity, is usually eliminated from the system in twelve or thirteen days, (Orfila, *Tox.* I, 715); but Boujeau detected it in the urine of a patient who had taken three-fourths of a grain of arsenite of soda, *in minute doses during twenty-four days*, although the last dose had been taken a month before. Although high authority can be quoted for the use of diuretics, to aid in the elimination of the poison by the urinary passages, it must be of doubtful benefit, considering the power of the majority of them in rendering arsenic soluble and active.

The recklessness with which arsenic is used by cancer quacks is in keeping with the carelessness with which it is sold and kept "for killing rats." A tenant, leaving his premises, left a paper of arsenic in a cupboard; some of it fell into sugar belonging to the succeeding occupants, and the father, mother, and four children were poisoned by using the sugar. Medical aid was called; but two of the children died next morning.

The knowledge of our ability to detect cases of arsenical poisoning, many years after the death of the victim, should deter the wicked from resorting to it as a means of taking life. John Cook, of Ashburnham, was tried before Judge Shaw, of Boston, in December, 1848, for poisoning his wife, in February, 1834. The testimony was pretty clear against him. The body was in good preservation five years after her death, and the stomach pretty sound in fourteen years. Dr. Webster, of Cambridge, found upwards of four grains of arsenic, in examining her remains. The old theories of arsenic existing in healthy bone is long exploded; and Orfila has proved, by experiments on the dead body, that a soil impregnated with arsenic will not preserve the human remains interred in it three months, much less enter into its structure.

*Tests.*—The garlic odor, given out by burning arsenic on red-hot coals, is easy. Powdered charcoal and dry carbonate of potass (two parts potass to one charcoal), placed in a clean,

dry glass tube of very small diameter, with one-third the quantity of the suspected arsenic well mixed, stop the tube loosely at its open extremity, apply the closed end in the flame of a spirit lamp until it becomes incandescent, when the arsenic will form a metallic band around the tube. This crust will give all the characters of arsenic. Nitrate of silver precipitates all the hydrochlorates from the vomited matters; when the solution is thus cleared, touch it with a glass rod, dipped in liquid ammonia, and it will give on the rod the yellow arsenite of silver. Arsenic changes sulph. copper into Scheele's green.

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ART. VI.—*Case of Vesico-Vaginal Fistula successfully treated, according to the method of Dr. Sims.* By T. C. FINNELL, M.D.  
Surgeon to St. Vincent's Hospital, New York.

MRS. G., aged 19, when about seven months and a-half pregnant with her first child, received a severe fall. In the course of a few hours, she was attacked with severe pain in the back, and other symptoms of labor. Opiates were administered, and rest enjoined, which had the effect of preventing premature delivery. From this time she felt no motions of the fœtus, and suffered very much from the distention of the abdomen, occasional pains, and feeling of weight in the hypogastric region—symptoms that denoted the presence of a dead child.

On the 29th of August, 1855, she was taken with true labor pains, which soon ruptured the membranes, giving exit to a large quantity of offensive liquor amnii.

The pains continued strong and expulsive, without any progress in the delivery. The medical attendant discovered the face presenting, but advised delay, in hopes that nature would accomplish all without assistance. At the end of four days, no progress having been made, it was deemed expedient to proceed to instrumental delivery. This was accomplished without much difficulty. The fœtus was partially decomposed, the integument peeling off readily. Acute vaginitis followed, which, at the end of six weeks, terminated by the separation of several sloughs.

In the early part of December, I saw the patient, for the first time, in consultation with Dr. Henry Sheppard. An examination showed the presence of a firm cicatrix at the inferior commissure of the vagina, which rendered it difficult to explore the parts. She was supposed to be laboring under incontinence of urine, from the paralysis of the neck of the bladder. On introducing a catheter, it passed into the vagina, through a large fistulous opening, passing from right to left obliquely, situated at the neck of the bladder, and readily admitting two fingers.

The patient was made aware of her true condition; at the same time, informed that the chances of improvement by an operation were very poor, indeed.

I advised delay for several weeks, in order to give the parts a chance of contracting to the fullest extent. A few weeks after, I was requested to operate, as the patient was anxious to have anything done that promised relief to her deplorable condition.

The patient was etherized, and an exploration of the parts carefully made—the leaden clamps measured, and calculations as to the different steps of the operation decided on.

Jan. 8, 1856, was the day fixed for the operation. I was kindly assisted by Dr. Benjamin Drake, Dr. Downs, Dr. H. Bedford, and Dr. Weltgee. Chloroform was administered—the cicatrized bands divided in at least a dozen places—considerable hæmorrhage took place, which, for a time, delayed further proceedings. The silver wire sutures were then introduced, the clamps applied, and the operation completed, after considerable trouble. The patient was under the full influence of the anæsthetic two hours and a-half.

She made a rapid recovery, without any unpleasant symptom. The clamps were allowed to remain 13 days, as they gave rise to no inconvenience, and she was unwilling to have them removed, for fear the fistula would open again. All the urine passed by the urethra from the time of the operation. She still is troubled, at times, with incontinence—but retention occurs for several hours at a time. This symptom

is gradually improving, and, in the course of a little while, will probably disappear.

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ART. VII.—*Remarks on the disease called Fêfe (Elephantiasis Arabum) as it exists at the Society Islands, and other groups in the South Pacific Ocean; from Observations during the years 1852 and 1853.* By EDWARD F. PERKINS, M.D.

THIS remarkable disease, endemic in various regions, and inseparably associated with certain localities, does not prevail with equal severity throughout inter-tropical Polynesia. The geological features of islands constituting this division of Oceanica are so strongly marked that they may be regarded as constituting three distinct classes. Of these islands the volcanic are first and most prominent; recognized by their extent, great elevation,—4,000 to 14,000 ft. high; crateriform outline and rugged aspect. Those of the second class, present but few indications of volcanic phenomena; instead of the prominent igneous masses and lofty basaltic cliffs, the rocks are chiefly of lime-stone formation, solidified or rendered firm by exposure, and in some instances, fissured and cavernous. Their hills are rolling, with an elevation of from 100 to 500 feet above the level of the sea. The remaining division comprises all the low, coral islands or formations, so extensively scattered throughout the South Pacific, individually of limited extent, and presenting often the appearance of a tranquil lagoon encircled by a zone of verdure. Mr. Dana computes their entire area in this ocean to be 19,000 sq. miles, though but one-eighth of this extent is dry or habitable land. These small lagoon islands may be regarded as exempt from the disease under consideration, though it may exist among them sporadically, as will presently be seen. In certain islands of the two preceding classifications, it prevails with equal severity, and it is also interesting to observe, that in those regions where its effects are most apparent, certain physical conditions are present, which are not common to others of the same class, and totally exempt from the disease. These differences will be considered when remarking upon

the causes of elephantiasis. It prevails to the greatest extent in the Southern Ocean, between the equator and twenty-second parallel of south latitude, including the Georgian, Society, Marquesas, Austral, Friendly, Samoan, New Hebrides, and Strong's and Ascension Islands. The inhabitants of these groups, excepting those of the New Hebrides, and indeed, of entire Polynesia, from New Zealand on the south, to Hawaii on the north, a distance of 3,700 miles, are evidently all derived from one common family—the Malaysian, assimilated to each other in physical contour, language, habits, rites, and ceremonies. It cannot be entertained that the Society Islands, especially the subjects of these remarks, are constitutionally more susceptible to this deformity than other branches of this great family; although it will not be denied that certain hereditary habits or customs, influence, in no slight degree, its development.

We have recognized two varieties of elephantiasis, qualified respectively as *græcorum* and *arabum*. The former is tuberculous in character, and though resembling, in some respects, the latter, it is by far the most formidable variety of the disease, and its characteristic symptoms are so evidently *sui generis* that to it has been assigned a special and appropriate pathology. The form prevalent in Polynesia is the *Arabic*; the same that, with various modifications, exists in nearly every inter-tropical region of the globe. But slight notices of this disease are furnished by the records of early voyagers; Capt. Cook, in his last voyage, alluding to the Friendly Islanders, remarks:—

“There are, upon the whole, few natural defects or deformities to be found amongst them. The most common of which is the tetter or ringworm, that seems to affect almost the one-half of them, and leaves whitish serpentine marks everywhere behind it. But this is of less consequence than another which is very frequent, and appears on every part of the body. I had the mortification to learn that all the care I took, when I first visited these islands, to prevent the venereal disease from being communicated to these inhabitants,

had proved ineffectual. What is extraordinary, they do not seem to regard it much; and as we saw few signs of its destroying effects, probably the climate and way of living of these people, greatly abate its virulence. There are two other complaints amongst them; one of which is an indolent firm swelling, that affects the legs and arms, and increases them to an extraordinary size in their whole length. The other is a tumor of the same sort in the testicles, which sometimes exceeds the size of the two fists. But in other respects they may be considered as uncommonly healthy; not a single person having been seen, during our stay, confined to the house by sickness of any kind."

Capt. Cook has possibly regarded these results of elephantiasis, as arising from two distinct diseases, which is not the case. A residence among these nations, and a more intimate acquaintance with their language and domestic economy, would have convinced him that the evidences of disease everywhere apparent, could never exhibit themselves without more or less prostration of the vital powers.

The name of this malady is a synonym for all that is unseemly and repulsive; and the individual thus permanently afflicted, is doomed either to deformity, or paroxysms of excruciating torture, with barely a hope of relief, while he lingers on hideous in his misery. With the Tahitians,—and this name will designate the Georgian and Society Islands, (Tahiti being the principal island)—its name *Fijé*, has become a word of reproach, and the imputation is indignantly repelled when the deformity can be readily concealed. Owing to the predisposition of the chiefs or higher classes to its attacks, it sometimes receives a less offensive epithet, and is spoken of, having reference to the social position of the sufferer, as "*te mai ari-i*" (the royal illness). Even members of the London Mission, suffering from its invasion, conceal, as far as possible, any evidence of their condition; there being the same abhorrence connected with this malady, only in a greater degree, that we are accustomed to associate with scabies, and other cutaneous diseases at home.



It is believed that the history of elephantiasis, as it exists in this group, will apply equally to all parts of Polynesia; though differing in certain features from the disease as it prevails in other regions of the earth—these differences are not sufficiently marked to constitute it a distinct variety; hence, it must be regarded only as a modification of a disease, having perhaps a common origin, and influenced in form and degree by various exciting causes. Its attacks are not confined exclusively to natives, its effects are witnessed upon residents and missionaries; especially was this observable among the pioneers of the mission, who, in 1797, were first stationed at Tahiti and the adjacent islands. Being compelled, by necessity of their isolated position, to conform somewhat to the native mode of life, it is said that all were affected by it, in a greater or less degree. It regards neither sex nor condition, and, except childhood and youth, no age is exempt from its attacks; the period of life most favorable to its development is from adolescence to confirmed virility; later than this its occurrence is seldom witnessed. It is most severe in young and strong individuals; but, notwithstanding the deformity and occasional recurrence of its paroxysms, the venereal appetite can hardly be said to be impaired by it, for persons thus affected marry, and the union is prolific. It is stated that this disease cannot exist in connection with another of a chronic nature. I have been informed by Rev. E. R. W. Krause, of the L. M. S., long a resident of these islands, that, could elephantiasis be induced in persons of a phthisical tendency, he would consider him secure from tuberculous affections. Not the least remarkable feature connected with the disease is, that it does not appear to shorten materially the natural period of existence. Cases are on record of persons who have suffered from it for more than fifty years, and finally have died from an entirely different cause. Many also who are affected with elephantiasis enjoy long intervals of freedom from paroxysms, and during this time are exempt from all other affections of a chronic nature. After the disease has been fully established

in a part, *i.e.*, permanent tumefaction has ensued, metastasis never occurs; one limb after the other, however, may be attacked, especially if the arm or hand be first affected, but, if primarily in the lower extremities, it is usually confined to them alone. It will be found to be a characteristic of elephantiasis, wherever it prevails, to affect those parts of the body where the circulation is least active, as in the lower extremities, and scrotum of males. Anchylosis of the knee-joint has been stated by writers to be one of the results of this disease, a reasonable conclusion, when it is considered that tumefaction may exist to such an extent as to be a mechanical obstacle to the free movement of the articulating surfaces. After witnessing instances of excessive deformity, I cannot recall to mind one of anchylosis of this important structure. It is regretted that no reliable data can be offered as to the proportion of inhabitants suffering from elephantiasis. The population of this group, once estimated by early voyagers at upwards of 200,000, is now less than 15,000; and of the per centage affected, it would be hazardous to venture even a random estimate. It may, however, be safely asserted that, of the inhabitants of Eimeo, an island adjacent to Tahiti, and second of importance in this group, also of Ruritu, one of the Austral Islands, that a tenth part are sufferers from its attacks. This is obviously an approximation; but in these, as well as certain other localities, evidences are too apparent to be mistaken.

So insidious is the invasion of elephantiasis, and its influences upon the system, that the individual has no suspicion of his condition, until suddenly seized with excruciating pain in either the inguinal or axillary gland, and, if a female, perhaps in one of the mammæ. Gradually swelling supervenes, until the gland becomes tense and indurated, and if the constitution of the patient be not completely involved in the disease, the swelling gradually subsides after an exacerbation of greater or less duration, according to circumstances, and he becomes convalescent. This may recur at intervals of weeks, months, or years, without proceeding to that characteristic stage of

deformity, resulting from induration and swelling of the integument and subjacent adipose cellular tissue. On the other hand, after the occurrence of this phenomenon, the patient experiences a smart attack of ephemeral fever; and subsequent to this brief duration, there is observed a reddish nodulated cord, extending from the point previously affected, along the lymphatics to the extremity of the limb, attended usually with violent and deep-seated pain, the seat of lesion being also acutely sensitive to the slightest touch. At this stage, suppuration may supervene at one or more points of the indurated lymphatics, to the great relief of the sufferer; but if this be absent, the second or third, sometimes so late as the seventh or eighth attack will be attended with rigor, lasting from four to eight hours, and subsequent burning heat, which continues from one to two days, terminating in copious perspiration. This fever appears to be of the true inflammatory type, being accompanied by great vascular and nervous excitement; respiration becomes labored, hurried—secretions diminished, attended often by nausea, vomiting, thirst, and a sense of extreme tenderness over the whole body. The nervous system is deeply involved; sharp, shooting pains seem to torture every part of the body, and the sufferer lies restless and jactitating upon his couch of dried grass and mats, his countenance expressing intense anguish or gloomy forebodings. In persons of delicate constitution or susceptible temperament, during the febrile paroxysms, special sensibility may be exalted, and delirium subsequently ensue, especially if the arm or mammae be the seat of the disease. The natives describe their sufferings to be most acute, and affirm that every part of the body is in agony except “the hair and nails.”

The affected limb, during an attack, becomes the seat of erysipelatous inflammation, of a dusky-red color, and is extremely sensitive; even the slightest covering causes pain. After the copious perspiration which succeeds the hot stage has subsided, the patient gradually recovers from the excessive debility or prostration, becoming ultimately conva-

cent. But the swollen limb remains, and with the apathy of despair, the native resigns himself to inevitable deformity, and periodic torture, which he believes will accompany him through life. This disease is now regarded as fully established, and its periodicity is sometimes observed with considerable regularity; in some instances only the brief immunity of two weeks intervening, although a year may elapse before the recurrence of another paroxysm. Subsequent attacks may be predicted with almost definite certainty a day or two previous to their occurrence, by a sensation of lassitude or drowsiness, inclination to yawn, etc., the symptoms resembling precisely those of an ordinary invasion of intermittent.

Elephantiasis Arabum is observed most frequently to affect the lower extremities; but besides these, the arms, mammæ, pudenda, scrotum, and penis, may be the seat of its lesions; I have never noticed its presence on either the face, neck, abdomen, or arms, where it has been noticed by some writers. It may attack but one limb at a time, and years sometimes elapse before it attains to that enormous development from the appearance of which the name of the disease has been most appropriately bestowed. Meanwhile the nodulated lymphatics become gradually obliterated, as the tumefaction continues slowly to increase; when it has attained its maximum size, the integument has a harsh indurated appearance, and not unfrequently deep furrows are observed where the skin is thrown into folds, producing always a frightful deformity. When the disease has been of long duration, the skin may assume a variety of appearances; frequently it has a dry, whitish aspect and is coarse and harsh to the feel, but beyond this there may exist nothing of a morbid character. Fissures, ulcerations, and excoriations of the cuticle may sometimes occur, and various other cutaneous affections may sometimes supervene. After careful inquiry, I could never learn that ulceration of the lymphatics, with tendency to gangrenous termination, ever existed, as also indolent and deep-seated abscesses on various parts of the affected limb, the direct result of this disease. But as often perhaps as one case in ten there will

be noticed a characteristic roughness of the skin, which may subsequently assume the scaly appearance of *ichthyosis*; it is thought that fungous growths are sometimes on the affected limb, but on this point nothing is confidently stated.

I do not know that an autopsical investigation of this subject has ever been attempted at the Society Islands; and it may not be uninteresting to notice the brief indications furnished by Cazenave, which are here appended:—"The skin is generally indurated, covered with yellowish scabs, or with thick incrustations, and is sometimes furrowed and covered with small, hard scabs, not unlike those of *ichthyosis*. 1.—The epidermis is greatly thickened, furrowed, and firmly adherent. 2.—The papillary bodies are highly developed and perfectly distinct from the cutis. They are described by Andral and Chevalier as being elongated, enlarged, and prominent. 3.—The true skin appears considerably thickened and hypertrophied, sometimes to the extent of more than half an inch. 4.—The cellular tissue is also greatly increased in density, and sometimes contains within its meshes a semi-fluid gelatinous matter; but it is more commonly indurated, slightly schirrous, and becomes lardaceous as it approaches the cutis. 5.—The muscles are generally pale, soft, discolored, and atrophied. The veins are sometimes found obliterated, and, in the case reported by M. Bouillaud, this obliteration extended even to the vena cava itself. No other lesion is found which can be referred to this disease, except, occasionally, glandular engorgements in places remote from the seat of the disease." Rayet has furnished a more elaborate summary than the preceding, which presents some interesting facts relative to the ossification of certain structures; the cause of enlargement he attributes especially to the deposition of serum or coagulable lymph within the cellular tissues.

It is truly surprising to observe how comparatively slight is the inconvenience accompanying this frequently irremediable deformity. A stranger, who for the first time visits any portion of Polynesia when this disease prevails, is startled

in the midst of such pleasing reviews as an enchanting landscape can awaken, at beholding among the little athletic forms of the obsequious natives, a sort of nondescript monster, which for the moment completely rivets his attention. This singular being moves among the crowd upon his colossal pedestals, which protrude naked in all their hideous deformity beneath the folds of the *paréu*, curious to behold and welcome the stranger, although the mutual interest excited by each other's presence be of an entirely different character. A native resided near me whose age exceeded thirty-five years, who was shockingly disfigured by this disease in the left lower extremity. Almost from the base of the toes the hypertrophy commenced, and the swelling continued nearly of the same size to the upper part of the thigh, the integument thrown into rugas, and here and there marked by discolorations, so that a more elephantine appearance in a human being could not well be imagined. Yet the inconvenience he experienced in the discharge of his ordinary vocations was comparatively slight, though his gait was somewhat dignified. He would stand upon the edge of the coral reef when the surf was breaking furiously upon it—watch his opportunity—dive through it and swim off to a ship with an incumbrance of green cocoa-nuts fastened into a large bundle by the husks—deliver them, and return by the same means.

The most inconvenient seat of the disorder is the scrotum; this, during the course of years becomes enormously hypertrophied, extending in rare instances nearly to the ankles. There were two such cases within a short distance of that part of Raiatea, in which I temporarily resided; one in the district adjoining, the other on the adjacent island of Taháa. With these no vestige of a penis was visible, owing to the tumefaction which completely buried it from view, leaving only an umbilicated orifice, through which the urine was discharged, usually surrounded by painful excoriations as a necessary result. When walking, which was seldom attempted, this unsightly appendage was supported in front in a kind of

sack, suspended from the neck, or if this form of convenience was omitted, the legs were extended to their utmost, as with awkward efforts they made the attempt. I have noticed this hypertrophy of the scrotum in Mexico, but never saw it extend below the knees. Such evidences are sufficient to awaken in the mind a vivid repugnance toward so disfiguring a disease, and a dread of its insidious approach, independent of the excruciating paroxysms attending its progress. But we familiarize ourselves with misery, and even elephantiasis may cease to awaken painful impressions, as we become accustomed to its deformities; more especially when its presence is no obstacle to the ordinary vocations of life, and is attended by a cheerful resignation to an apparent destiny.

As to diagnosis there can be no possibility of mistaking the malady when it prevails among the inhabitants of Polynesia, inasmuch as in those regions there exists no other disease bearing the slightest approximation to it in character. When met with on continents, there may, at first, be some danger of confounding it with anasarca or œdema. But even this error could not long continue after a careful investigation of the history of the case; for while tumefaction in one instance is the result of lesion of some internal organ, in the other it is of a purely local nature, the general functions remaining unimpaired.

The prognosis is most unfavorable, especially when the disease has become permanently established, and the induration and furrows are prominent features. A favorable termination may only be hoped for when the disease is encountered in its early stages, and a systematic and energetic course of treatment is pursued.

It will not be attempted to enumerate the various modes of treatment suggested by continental writers. There is one form of local treatment, however, resorted to in the Hospital of St. Louis, which, if promptly applied, cannot be otherwise than beneficial. This consists of compression, iodine frictions, and the vapor douche. This conclusion is deduced from observing the effects of a somewhat similar

course of treatment pursued by the natives themselves. Immediately preceding an attack, those who attend to their condition, drink a cocoa-nut shell of sea water, to act as a purgative; then a quantity of herbs are gathered and thrown upon stones already heated. As the vapor arises, the affected part is fully exposed to its influence, while at the same time assistants keep up for a considerable interval, a gentle species of friction or shampooing with the hands, called in the native dialect *táu-ro-mi-ró-mi*, a simple kind of medication common throughout Polynesia. This, of course, does not obviate the constitutional tendency to periodic attacks, but is nevertheless attended with this advantage if perseveringly followed, which is, to prevent the enormous swelling. Two natives, *Haw má-ne* and *Tc-ha-é-re*, were both attacked at the same time, sixteen years ago. The first has steadily pursued this treatment. Although at the commencement he had a paroxysmal attack every two months; the swelling of the leg has been wholly prevented, and, at the present time, remains of ordinary size; while both lower extremities of the other, who was too indolent or indifferent to pursue this course, soon became swollen, and the result has been complete and permanent deformity.

Having never witnessed the treatment of this disease, I am guided in my remarks by conversations with Mr. Krause, the gentleman to whom allusion has already been made. His own success in treatment, considering the limited means at his disposal, has been so signal that I cannot forbear giving it in his own words:—"Soon after my arrival at Raiatea, in 1842, Mr.—, one of the resident missionaries, wished me to see whether I could do anything for his son, who for some time had been suffering from elephantiasis. Being unacquainted with the disease, I requested time, for the purpose of making observations among those affected, also to familiarize myself with its phenomena; hoping by this means to obtain some available hints with reference to treatment. Various reasons, especially the nature and periodicity of the attacks, induced me to use quinine; which was administered



early on the morning of the expected attack, for five consecutive hours, viz. : from 4 to 8 o'clock inclusive, 2 gr., each hour; in all 10 grs. At 9 o'clock the patient partook of a light breakfast. In this way I found I could produce the greatest impression with the smallest quantity of quinine. As the patient can always, in fully established elephantiasis, predict the attack for at least twenty-four hours, I always give, as soon as these indications are noticed, a dose of epsom salts, which in itself appears to shorten, somewhat, an attack; and, I think, prepares the system for the quinine. In the case of Mr.—, the swelling disappeared so rapidly under this treatment, that I feared a metastasis; and consequently set an issue on the other leg, which I kept open for six months. A year elapsed without any recurrence of the disease, when one day he drank a small bottle of ale, which, as well as all other alcoholic stimulants, I had forbidden, and very soon experienced a fresh attack; which so frightened him that he has abstained from such exciting causes ever since; and up to this time has had no recurrence of the disease."

Even this desultory description is of interest, inasmuch as an eminent European authority, who has given this disease a passing consideration, believes internal remedies to be generally of no avail. Mercurial frictions have been recommended, as well as general depletion by venesection; but such remedies at the Society Islands have failed, and are now abandoned. Dr. Carnochan, of this city, reports having cured a severe case of elephantiasis, by ligation of the femoral artery; but we cannot regard simply this subsidence of tumefaction as a radical cure of the disease, without a reasonable number of well-authenticated precedents. Dr. Hendy mentions the case at the Barbadoes, of a female who submitted to amputation of a hypertrophied limb on account of its inconvenience. Immediately after, the other was attacked, and with such severity as to cause premature death. Being personally acquainted with the patient of Dr. Krause, I can vouch for

the truth of his present condition, which apparently exhibits not the slightest trace of disease.

When foreigners suffer from elephantiasis (almost exclusively *attachés* of the London Mission), they resort to the cooler climates of South Australia or England, where its progress is immediately checked; but if confirmed swelling have already supervened, its subsidence is never ensured.

Few subjects can furnish a more interesting theme for scientific study than the investigation of the etiological phenomena of this disease. Notwithstanding the primitive obscurity still associated with it, it is gratifying to know that certain physical aspects almost essential to its presence, enable us to point out, with considerable accuracy, those features incompatible with its existence; thus, negatively, reducing it within prescribed limits, and perhaps enabling us ultimately to arrive at satisfactory conclusions as to its true origin. Remarks upon this point have reference almost exclusively to Polynesia, yet to a certain extent may apply to all inter-tropical regions throughout the globe, where this disease prevails. It is only when we trace its presence in the temperate regions of Europe, where in some localities it is endemic, and in others sporadic, that difficulties arise to prevent the attainment of satisfactory results upon the subject. Yet it is confidently believed, that could a careful summary of statistics, with reference to the hygienic and physical conditions of these regions be obtained, certain striking coincidences would be found to exist, that would materially circumscribe the vague speculations as to its cause, and furnish a more definite basis for investigation. Rayer professes ignorance upon this subject, while Hendy, in his treatise on the "Barbadoes leg," makes prominent reference to exposure to cold draughts of air, to which the residents of those islands are subjected, owing to the slight construction of their tenements. Admitting these to influence the disease, which they undoubtedly do, there remains for us but vague conjecture as to its essential origin. How numerous are the instances in inter-tropical regions where the habits of the

natives expose them to precisely similar conditions, and yet the disease is only known among them by name.

The physical aspect of those regions in which the disease is endemic will be first considered, to be subsequently compared with other countries exempt from its influences, when such reference appears applicable. The Georgian and Society Islands, constituting only a single group, are eight in number, and lie between the sixteenth and eighteenth parallels of south latitude, and are bisected by the hundred and fifteenth meridian of west longitude. Like other first-class groups, they are of volcanic origin and furnish geological evidences of remote antiquity. Even a superficial observation reveals this: each island appears to be an immense cone shot up from the ocean, rent asunder by igneous convulsion and as suddenly congealed. But the asperities of such chaotic origin during the ages that have supervened, have been softened and harmonized by the changes successively wrought. Masses of the old volcanic rock have crumbled away, and have been washed down the valleys and ravines, to unite with the labors of saxigenous polypi, in forming a formation for the rich *debris* or alluvial deposits, to be furnished chiefly by the growth and decay of generations of forests. These mountains, valleys, and bottom lands are covered with luxuriant vegetation, where a profusion of luscious fruits grow spontaneously. To the low or bottom lands is allusion especially made in connection with this subject; these are the only portions of the islands occupied by natives and foreign residents. They extend around each island; and, in proportion to dimension, varying in breadth from a few rods to more than a mile, from the edge of the lagoon to the mountain spurs; and when to this is added the broad expanse of the valleys, the area of tenable surface is considerably increased. These bottom lands are low and not unfrequently barely elevated above the water margin. When during the rainy seasons a severe storm prevails, the perpetual surging of the waves against the coral barrier, which everywhere surrounds the islands, forces more water into the lagoon than can be

discharged by the natural channels through the reef. In consequence of this the flood is forced back upon the land, trees are uprooted, habitations and life destroyed by the violence of the gale and inundation; such devastating storms are happily rare, but their effects continue long after their ravages have ceased. Nearly all the valleys are well watered; in many districts the land is low and swampy, where the streams disembogue into the sea. Here vegetation is unusually rank and luxuriant, and in, or adjacent to, such places as these the natives frequently erect their habitations, where during the summer season the atmosphere seems reeking with humidity, spots which on the continent would be shunned as the abodes of pestilence.

Reference to the physical characteristics of this group would be incomplete were not a passing remark made respecting its meteorological phenomena. Its situation within the tropics insures for it the refreshing influence of the south-east trade winds, which, with slight variation, blow steadily three-fourths of the year. By these, the condensed vapors of the ocean are borne along in clouds, and encountering in their flight these lofty summits, gather around them like a vast reservoir, and bursting, discharge perennial showers over the land, to cool and fertilize the soil, refreshing the more elevated region with a climate of perpetual spring. The heat of the lowlands, however, exposed to the direct influence of the sun's rays, is often more oppressive, owing to its steady continuance, the thermometer at times averaging to exceed 80° Fahr.; during the winter or rainy season, for long intervals, the atmosphere is excessively humid, and is perceptibly cooler. The thermometer ranges higher here than at the Sandwich Islands, and the heat is more oppressive than is experienced at islands immediately beneath the equator.

To the presence of the trade winds are the islands of the Pacific in a great degree indebted for their immunity from numerous chronic and miasmatic affections that prevail on continental shores; allusion to this subject will again be made when referring particularly to the causes that influence or

originate the disease under consideration. The preceding observations will apply in all essential points to other groups or islands where the malady is endemic; and from their application it is asserted, that, *marshy regions, or their vicinity, and continued humidity are necessary to the development of elephantiasis.*

There are in the island of Borabora two districts noted for engendering this disease; they are marshy and are exposed to violent gusts of wind and sudden atmospheric changes. Nearly every person residing in these districts is more or less affected, while those whose habitations are on the leeward side of the island are comparatively exempt from its influence. Let us glance for a moment at the Sandwich Islands, resembling in many respects those to which special reference has been made, being also inter-tropical. The important differences, worthy of remark, are, the greater elevation of the lowlands bordering the sea, which slope gradually upward in gentle acclivities; and the almost entire absence of those swampy tracts bordering lagoons, so prominently characteristic of the Society Islands. The country is more open to the influence of the sun's rays and winds,—consequently possessing a less humid, and more agreeable climate. Everywhere are scattered more recent evidences of volcanic action; huge basaltic bowlders and trap-pean cliffs are abundant, and entire districts, miles in extent, are covered with slag and scorix. The dark lava flood has been rent asunder, leaving unfathomable caverns and fissures; and, as if tossed and whirled in a semi-fluid state, the molten flood has congealed in chaotic form, as if the alluvial and trachyte soil were scattered upon a foundation too broken or porous to retain the floods that during the rainy season are poured over upon it—no lakes, swamps, or stagnant pools are found upon its surface, unless artificially formed for purposes of cultivation. In this group I have never witnessed a case of the disease, yet, in many respects, the natives are closely assimilated to those of the Society Islands. The same may be said of the New Zealanders, another conspicuous

branch of the Polynesian family, among whom, so far as my observation extends, there is complete freedom from its presence. Lying in the south temperate zone, the appearance of the country resembles, in essential points, that of the islands just mentioned. Elephantiasis prevails in certain districts of Japan, but, at the Bonin Islands, a few degrees S.E. of this empire, I have never witnessed anything approximating to it, although my sojourn at this group was sufficiently long to familiarize me with everything of interest pertaining to it. They are of volcanic origin, exempt from marshes, and other permanent sources of humidity, and possess a climate cool and invigorating.

Fourteen degrees south of this group lies Guano, the principal of the Ladrone Islands. Whether elephantiasis exists here or not, I am unable to state; during a limited sojourn at Apra, no evidences of it were noticed, nor did any inquiry on this point at the time suggest itself. The general contour of the country resembles in many respects that of land in which the disease is endemic, and there can be but little doubt but that investigation would reveal its presence. It is hardly to be expected that early voyagers should always make reference to it, as their opportunities for observation were circumscribed. Dampier, however, who visited Guano, in 1686, furnishes us, in his minute and quaint style, with a very brief description of a certain form of cutaneous disease that prevails here, the same so often associated with elephantiasis in other parts of this ocean. "This distemper runs with a dry scurf all over their bodies, and causeth great itching in those that have it, making them frequently scratch and rub themselves, which raiseth the outer skin in small whitish flakes, like the scales of a little fish when they are raised on end with a knife. This makes the skin extraordinary rough, and in some you shall see broad white spots in several parts of their body. I judge such have had it but were cured; for their skins were smooth, and I did not perceive them to scratch themselves; yet, I have learned

from their own mouths that these spots were from this distemper."

Nearly in the middle of this ocean and near the equator, are the Kingsmills Islands, the natives of which are exempt from elephantiasis. A few degrees to the westward are Strong's and Ascension Islands, and here it prevails. A superficial glance at the geological differences furnishes an explanation. The former are low and sandy, producing but a limited variety of vegetation; while the latter are hilly or mountainous, a considerable portion of the land being swampy and uninhabitable. Twelve hundred miles west of Tahiti are the Samoan or Navigator Islands, surpassing in extent and utility the group of which Tahiti constitutes the nucleus. Here elephantiasis prevails to a frightful extent, and the visitor at Upólu will be pained to witness the startling evidences of its presence, amid the beautiful scenery for which this island is celebrated. The reason may be anticipated; as at the Society Islands, there are numerous marshy districts near the shore, besides certain habits and forms of diet, which are found to co-exist with the disease. The characteristic features will be found at the Huay, Austral, and it is believed all other islands in this ocean where the disease prevails.

After these statements the presence of some species of miasm would suggest itself, which is by no means maintained under existing circumstances, certainly not that which generates the intermittent or continued varieties of fever. One of the brightest hygienic features of Polynesia is the absence of all hepatic or biliary diseases, the exanthemata, or most other varieties of fever, unless introduced from abroad; Idiopathic fevers are unknown; a sufficient proof of this may be found in the fact, that nearly all these groups or solitary islands are visited by the American whaling fleet in the Pacific, and on such occasions the seamen are exposed in every possible manner to the influences of climate by unrestrained intercourse with the natives; and we have yet to learn that any have suffered from the effects of malaria of specific character, so prevalent among the West India Isles.

All the requisites for the production of miasm are present; heat, moisture, and vegetable decomposition, and the absence of its characteristic influence appears certainly remarkable. An explanation of this phenomenon, with reference to Polynesia, is offered, which is simply this: the remoteness of these islands from the malarious influences of either continent; the purity of the atmosphere so constantly maintained by evaporation from so vast an ocean, and more especially the refreshing influence of the trade-winds that blow steadily three-fourths of the year. Several districts are favored by the sea-breeze during the day, and by the land-breeze from the mountains at night.

These somewhat digressive remarks furnish no data for supposing that marshy regions exert a specific influence in the production of elephantiasis; but that they are associated with its development, must be sufficiently apparent from the facts enumerated.

Native habits and certain kinds of food exert an important influence in developing this disease, but these remarks have already been extended too far to give this subject more than a passing glance. Fermented foods are used more or less extensively throughout Polynesia, and to this may be owing the intractable cutaneous diseases everywhere prevalent. The breadfruit, a staple article of food, is indigenous to all the first-class islands of Polynesia; but a form of preparing it by the natives where elephantiasis prevails, deserves a hasty notice. During the harvest of this excellent fruit, the inhabitants of a district assemble, and the ripe spheres are gathered and piled upon the ground; they are then deprived of their rind by the men, who scrape them with a shell of mother of pearl. Each sphere is then quartered, the core removed and placed in excavations in the earth which have been previously prepared and lined with mats and leaves. The whole is then carefully covered with the same material, to protect it from the earth piled above. In this situation it is permitted to remain for many months, before the reservoirs are opened, and portions removed as necessity may



require. Breadfruit thus prepared is called *ti-o-ó* (te-oh-6h), and, as might be supposed, is in every respect offensive to the European sense. The inviting appearance of the yellow and nutritious pulp is no longer recognized; the mass has fermented and become literally black and putrid, omitting an offensive odor; yet this repulsive material, after a slight culinary preparation, is consumed by the natives as was done by their ancestors before them. Even more, it is to a certain extent an article of commerce in connection with the pearl fishery. Of this *ti-o-ó*, it can be affirmed, that, after a native has partaken freely of it, fever, more or less severe, is almost sure to follow. So significant is this fact, that when a native meets another affected with certain symptoms, he unhesitatingly affirms that he has been eating *ti-o-ó*. It is stated, but I cannot vouch for its truth, that the pearl divers of the Paumotu or low Archipelago, who at their request are supplied with this food by those who avail themselves of their services, are often prostrated by the characteristic symptoms of elephantiasis. It is believed that in whatever island or group this substance is used as food, the formidable disease will be found.

Whatever influence this, and other varieties of diet, almost equally offensive, may exert in developing the disease in natives, the cause lies deeper when we discover its existence in Europeans. The early missionaries were exposed to many hardships and privations in the South Pacific, but it cannot be supposed they partook of a diet so offensive. Changes of climate, inactive mode of living, and insecure habitations, would tend to favor the invasion of the disease; at the present day the inactivity attending the daily routine of many Protestant missionaries in this enervating climate, is almost sufficient in itself to induce a pathological condition of the system, independent of elephantiasis. Foreigners leading an active life, appear to be exempt from its influences; but discharged seamen and the refuse of society, who lead a life of idleness and dissipation among these gardens of the ocean, assimilating themselves to the native mode of life,

are most liable to be affected. The case of a young Englishman with whom the writer is acquainted, will suffice for an illustration of this.

Many years ago, when quite a lad, the vessel to which he was attached, touched at Huahiue, an independent island of this group (S. I.), the queen was pleased with the young man, and at her earnest request he was permitted to remain. Years passed and he became assimilated to the natives in habit, *i. e.* indolent, licentious, and dissipated when opportunity offered. Domestic wars ensued; the "beach comber" was thrown upon his own resources, and one tempestuous night during the rainy season, when the sea broke over the coral barrier and swept inward like a flood, he was compelled to pass the night clinging to the branches of a tree for support, in the midst of the rain and eddying waters. When subsequently rescued from his perilous situation, a violent febrile attack supervened, the harbinger of the dread disease, and since then he has remained an incurable victim of elephantiasis.

Lastly, if we except licentiousness which is common to all Polynesia, both the habits and habitations of those exempt from elephantiasis are peculiarly different. While they indulge less in fermented and intoxicating food and beverages, they are more industrious, and some of them cultivate the soil; their domiciles more thoroughly protect them from the inclemency of the weather and sudden changes of temperature. When to this we add the concurring relation of certain natural phenomena, we comprehend at a glance the essential conditions that combine to influence this formidable disease.

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ART VIII.—*Abstracts of the Proceedings, Papers, etc., of the Medical Societies of New York.*

ACADEMY OF MEDICINE.

REGULAR MEETING, March 5th, 1856. DR. WILLARD PARKER, *President*.

CARBONIC ACID GAS AS AN ANÆSTHETIC IN UTERINE DISEASES.

A COMMUNICATION was read from Prof. SIMPSON, of Edinburgh, addressed to the Academy, *On Carbonic Acid Gas as a Local Anæsthetic in Uterine Diseases, etc.*

It appears that Prof. SIMPSON was led to the use of carbonic acid gas as a local anæsthetic in painful conditions of the vagina, uterus, and neighboring parts, from reading the case of a lady, treated by Dr. Rossi, of Italy, and reported in the second edition of *Pereira's Materia Medica*, vol. 1, page 155. In this case there was no organic disease, and merely an increased irritability, which was completely relieved by the injection of carbonic acid gas.

Prof. SIMPSON has frequently resorted to this treatment within the last two or three years; and, though not always with success, yet frequently with great relief, and occasionally with immediate benefit. Several cases were given in illustration. One lady who had been bed-ridden for years from pain, and bearing down when standing erect, was almost entirely cured by injections of this gas.

His method of applying it is, to use a bottle having a flexible tube attached to the cork. The materials used for generating the gas, are tartaric acid, six drachms; bicarbonate of soda in solution, eight drachms; and water six ounces. The injection may be used several times a-day. Other materials may be used.

Prof. SIMPSON adds, that the employment of carbonic acid gas as a local anæsthetic to the uterine mucous surface and other parts of the body, is not a recent discovery. Dr. Dewees, of Philadelphia, speaks favorably of it in his work (*Dis. of Fem.*, page 269). Prof. Mojon, of Geneva, has used it frequently, and with decided advantage.

Referring to ancient writers, the author is disposed to consider the practice of burning certain aromatic and medicinal herbs, and applying the fumes to the interior of the vagina by means of proper tubes, to be but another phase of this practice,—as carbonic acid is the result of such combustion.

He also ascribes the beneficial effects of mineral waters, in many cases at least, to the topical application by means of baths and injections of these waters, which generally hold in solution large quantities of carbonic acid. Female patients have assured him of the relief they

experienced from uterine pains, while using injections of the waters of springs, as practiced at different German baths. The same is true in certain cutaneous diseases. The common effervescing draught, in gastric irritability and nausea, acts on the same principle. The injection of carbonic acid gas in dysentery, as practiced with success, by Hey, of Leeds, in 1772, Perkins, etc., is directly in point. The benefit of the common yeast poultice, which gives rise to carbonic acid gas, may be similarly explained. Many other examples were alluded to in the paper, showing how frequently this agent is used in practice without recognition of its anodyne properties.

Dr. DETMOLD remarked that members would recollect that, about the year 1847, he called the attention of the Academy to certain propositions, which he then made, proving quite conclusively that carbonic acid gas is the efficient agent in causing anæsthesia. The carbonic acid may be given as such, or one of its chemical ingredients may be so administered, that, finding in the blood the other constituents of this compound, carbonic acid gas is generated, and anæsthesia, to a certain extent, is the result. Thus we may administer oxygen in large quantities, in the form of nitrous oxide, (protoxide of nitrogen, or laughing gas,) which has all the chemical reactions of oxygen, but is much more soluble in water and the serum of the blood than pure oxygen, and, therefore, is much more readily taken up. This compound meeting with the carbon of the blood, carbonic acid gas is formed in large quantities, with the production of anæsthesia to a certain extent. Or we may, on the contrary, administer the carbon, as the oxide of carbon or any of the hydro-carbons, alcohol, the ethers etc ; in this case the blood again furnishes the other constituent of carbonic acid, oxygen, and anæsthesia is again the result.

The stage of excitement corresponds to the period of combination of these elements and the formation of the carbonic acid gas. If the gas is administered as such, there will be no stage of excitement, but if the constituents combine slowly, and the gas is generated in limited quantities, there will be a corresponding stage of excitement. Thus, in the stupor of drunkenness, carbonic acid is exhaled in normal quantities, but as the stupor passes off, large quantities of that gas are exhaled. The venous state of the arterial blood, during anæsthesia, is another proof that carbonic acid is being generated in large quantities. If it is true that in post mortem examinations of those dying while under the influence of chloroform, bubbles of air are found in the heart and blood vessels, it is highly probable that this air is car-

bonic acid gas, unless, perchance, it has entered the circulation by some mechanical lesion.

The only means, in his opinion, of any avail in restoring a patient from profound or fatal anæsthesia, is artificial respiration, or such other means as, by exciting reflex action, will restore respiration, and thus hasten the elimination of the carbonic acid gas. It has been recommended in threatened and apparent death from anæsthesia, to resort to the inhalation of oxygen or nitrous oxide. Reasoning from the premises which he had given, such remedies would be in the highest degree dangerous. To satisfy himself in regard to this fact, he had made numerous experiments upon animals, and invariably found a fatal issue hastened by administering oxygen.

The subject of anæsthesia by carbonic acid gas, as illustrated in PROF. SIMPSON'S paper, and the remarks of DR. DERMOLD, elicited marked attention, and will lead to many practically useful deductions. This essay will in due time be published by the Academy, and will attract much attention from the novelty of the views expressed.

April 2, 1856.

#### ATELECTASIS OF THE LUNG.

DR. S. CONANT FOSTER read a paper on *Atelectasis Pulmonum* (imperfect expansion of the lung), preceded by the history of a unique case of this peculiar affection. The patient was a child, fourteen months old, of general good health, which was seized with obscure symptoms, as fever, abdominal tenderness, slight cough, and an interrupted respiration, which consisted in the child's holding its breath at the end of each inspiration. The examination of the chest detected only dullness over the middle lobe of the right lung. Although the patient's general symptoms improved somewhat under treatment, still, the peculiar respiration continued—it refused nourishment, and gradually sank, and died. Repeated examinations of the chest elicited no new facts in regard to the lungs, except the existence of a slight bronchitis. The autopsy revealed a healthy state of the left lung and heart, while the entire right lung was in the condition described as atelectasis. The upper lobe was united to the thoracic parietes, and the lower lobe to the diaphragm by old, and very firm, false membranes; recent false membranes was also found in cavities formed by the old.

The adhesions of the lungs to the ribs, Dr. Foster considered to be congenital, and gave rise to the phenomenon of interrupted respiration already alluded to; and which had been noticed since its birth, being especially well marked when the child was sick. The order of sequences which he is led to make in the progress of this case is as

follows:—bronchitis occurring, while the child was teething, led to atelectasis of the middle lobe; embarrassed respiration, and hyperemia, consequent upon this change, increasing the traction upon the old adhesions, led to inflammation and effusion at those points; these conditions reacting, increased the tendency to atelectasis (imperfect expansion of the lungs), and the whole lung became involved.

The author then entered upon an extended and interesting examination of the literature of this disease, and the various opinions which had been advanced in regard to its true pathology. He accepts the term atelectasis, as given to this affection by Jörg, who first called attention to it in 1835. This author showed, that in new-born infants, it was not due to preceding inflammation, but the simple persistence of the foetal state. Various opinions were subsequently expressed as to the nature of the change in the lung, and it was generally described as the result of inflammatory action, until 1844, when MM. Bailly and Legendre, by the simple act of insufflation, proved that the collapsed lung could be restored to its healthy state, and, consequently, could not have been the seat of an inflammatory process. The microscope also reveals only lung tissue in these cases.

The writer then proceeded to consider the different varieties of atelectasis: first, that occurring in the newly-born, where, from debility of the child, or the impaction of mucus in the bronchial tubes, the lung is but imperfectly expanded, on the first attempts at respiration; second, that occurring after complete expansion of the lung, where, from the stoppage of the bronchial tubes by mucus, the result of acute or chronic catarrh, the lung returns to its foetal state. The causes of this condition of the lung are, evidently, those which impede the entrance of air into the air-cells. They are, therefore, those which either enfeeble the respiratory system, or, by clogging the air-tubes, prevent the entrance of air to the cells.

He drew attention to the fact, that atelectasis is a very frequent sequel of whooping-cough, and has frequently been mistaken for pneumonia. It is a little remarkable, that Dr. Alderson, in a paper published so early as 1830, (*Med. Chir. Trans.*, vol. xvi.,) on the *Pathology of Whooping-Cough*, describes this condition of the lung in the fatal cases from this disease. He considered it the result of inflammation, and treated it accordingly. Pneumonia in infants is, in Dr. Foster's experience, a very rare disease; and when it does occur, is as readily diagnosticated as in the adult. This is a fact of great practical importance, as the treatment must be very different—atelectasis more

often being a disease of debility, while pneumonia is one of inflammation.

The paper closed with remarks upon treatment. This consists, essentially, in the use of stimulating and invigorating remedies, externally and internally, and regulating their employment by the degree of febrile excitement, which bronchitis or some existing disease may induce.

The subject of this paper is one of such practical importance in infantile therapeutics, and, withal, so little studied and understood, even by our most scientific physicians, that Dr. Foster has rendered the profession an essential service, by bringing it before our largest medical society in so elaborate a discussion of its history, pathology, treatment, etc. The essay, when published, will be a valuable contribution to our knowledge of this obscure affection.

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#### SECTION ON SURGERY.

REGULAR MEETING, April 6th, 1855. Dr. DETMOLD, *Chairman*

*Condition of muscles of a Limb long under Treatment for Fracture.*

—The paper of Dr. Buck, *On the Treatment of Badly United Fractures*, was laid before the Section. The discussion which followed its reading related principally to the condition of the muscles of a limb long under treatment for fracture.

Dr. WATSON inquired of Dr. Brown Sequard, who was present, if muscle long contracted could be stretched without rupture.

Dr. SEQUARD replied in the negative. He remarked that in certain forms of paralysis, as that occasioned by lead, the muscular structure is entirely obliterated; while in other instances, as in paralysis from simple disease, there are still traceable in the degeneration which has taken place, some remains of muscular fibre. In cases where the entire muscular fibre has disappeared, there can be no regeneration of muscular tissue; but in the more ordinary forms of paralysis, where there is still a trace of true muscular fibre, the muscle may be again developed. The condition essential to this re-development is an increased vascular action in the part, and, in consequence, an increase of nutrient material. For this purpose, exercise of the paralyzed limb, friction, electricity, etc., are useful. Electricity acts beneficially, not on the principle of exercising the degenerate muscle, but in causing a congestion of blood in the part by its action upon the nerves supplying the capillaries and inducing their relaxation, thus admitting larger currents of blood.

Dr. WATSON stated that no exact limits could be fixed to the time when re-fracture was inadmissible,—the individual case, with the attendant pathological changes must be the guide, not any arbitrary rule. Sir Astley Cooper fixed the limits at from three weeks to six months. He had a case of a seaman where he could not re-fracture at the end of three weeks.

Dr. DETMOLD mentioned the case of the daughter of one of the Foreign Ministers, where both bones of the forearm were fractured and united with considerable deformity, the ulna being much bent. On attempting refracture the ulna yielded, but the radius did not; thus showing that in the same individual the strength and completeness of the callus of different bones varies in a given period.

On motion of Dr. Stone the paper of Dr. Buck was referred to the Academy for publication.

*Hernia Treated by Subcutaneous Injection.*—Dr. WATSON remarked that Dr. Pancoast had successfully used a subcutaneous injection for the cure of hernia, and more recently it had been successfully practiced by a quack in Boston. He had himself resorted to similar injections three times. Being unsuccessful in obtaining the instrument used by the Boston practitioner, as it was patented, he performed the operation on a patient in the N. Y. Hospital, using tr. lyttæ; the operation was successful; the patient, after being a year at sea, wrote him that he had no return of his former complaint. In the second case he was less successful,—the patient was a laborer. The same injection was used and was followed by severe inflammation and suppuration. He got better, but on walking about, the hernia again came down; it was not so large, however, and Dr. W. advised another operation, which the patient refused. In the third case, a negro, he used the instrument which he exhibited to the Section; being an ordinary syringe, armed with a trochar, at the base of which were two minute openings, where the fluid escaped into the surrounding tissue which the trochar traversed. The object is to set up inflammatory action around the sac, at the external ring. Recent cases are most favorable.

Dr. DETMOLD modified the instrument used by the Boston practitioner, using a screw piston, and injecting but a single drop of oil of cloves.

*A New Form of Ear Syringe.*—Dr. MINER exhibited an ear syringe,—the invention of Dr. Hullihen, of Wheeling, Va. This gentleman has proved himself to be an ingenious and accomplished surgeon, by the invention of an admirable instrument for operating upon cleft



palate; and, by an original and very successful operation for a deformity arising from the cicatrix of an extensive burn of the neck, which was published some years since in the *Philadelphia Examiner*.

The syringe is composed of a small pewter cup, about three and a half inches in height and about two inches in diameter. Standing perpendicularly in, and soldered to its side, is a pewter syringe with suction and force power, extending to the bottom of the cup. The nozzle turns upwards, running up its side in the form of a small tube until it reaches a little above the cup rim, where it turns horizontally, projecting a little beyond and immediately over a semilunar "score" in the rim of the cup. The instrument being filled with the fluid to be injected, the nozzle inserted into the meatus, and the lobe of the ear placed in the "score," it will be found that the side of the cup rests in the fissure formed by the angle of the jaw and the sterno-mastoid muscle; and that it will be impossible even for the most careless person to injure the parts by inserting it too deeply, or in the wrong direction.

No assistant is needed in its use, the patient himself being able to apply it, and keep up a continuous, gentle, or stronger stream, as his sensations may direct; a most important consideration, as those well know who have ever experienced the pain arising from too strong a stream directed against the tender membranes of the tympanum and meatus. The lobe of the ear acts as a sort of gutter, and directs the reflux fluid back again into the cup, thus keeping the most spotless collar free from moisture. It is not necessary even to remove the cravat.

Any one who has experienced the trouble and annoyance of one or more assistants, a basin, a towel to absorb the overflowing water, removing the cravat and collar, etc., will know how to appreciate such a convenience as this syringe.

Dr. H. designates his instrument the "Wheeling Ear Syringe."

April 20th, 1855.

*Compressed Sponge in the Treatment of Cancer.*—Dr. SAYRE related the following case:—Mrs. W., aged 38; of good constitution; came to him in 1850, with an enormous tumor involving the left breast, extending from the clavicle to the lower edge of the sternum, and upward to the axilla, so as to elevate the arm. It had a boggy, nodular feel, with irregular elevations; color, purple; veins, blue and distended. There were two points which were prominent,—size of a hen's egg, and fluctuating; the skin appearing as if about to break. There was also a cicatrix where, several years before, caustics had been used to remove

the disease. She was feeble, emaciated, anæmic, and her general system was apparently rapidly failing.

The disease was of about five years duration, and during this time she had been subjected to a great variety of treatment.

His diagnosis was fungus hæmatodes; this opinion, she told him, was in confirmation of Dr. Mott's, Rodger's, and several other surgeons, to whom she had submitted her case. They had refused to operate, and she came to him to have it removed. Extirpation was evidently not to be thought of, considering the size of the tumor, and the enfeebled condition of the patient. He refused to operate, and advised her to apply ice and salt in an India-rubber bag, adapted to the tumor. She left, and he lost sight of her for several months, when he met her in the street, so much changed in appearance that he did not recognize her. It appeared that she had returned home and made the application of cold as advised, and continued it without intermission. The tumor gradually lost its purple color, and diminished in size; the skin assumed a more natural color, and her general health rapidly improved. He now began the use of compressed sponge, which the patient wore a year, and during this time the breast returned to nearly its former size, and her general health became robust. She became pregnant, and gave birth to a fine, healthy child, and the diseased breast secreted milk.

She has continued well. There is a small, hard movable tumor about midway between the nipple and axilla, which is occasionally the seat of pain; whenever it gives her trouble she immediately resorts to the sponge, and always obtains relief.

Dr. SAYRE also related a second case, in which a child, at birth, had a small tumor at the junction of the sacrum and ilium; when eighteen months old this tumor was the size of an orange, and was greatly aggravated by dentition or any constitutional irritation. At such periods it would enlarge—become painful, and of a purple color. Several surgeons were consulted, all of whom agreed in pronouncing it malignant. He treated it with compressed sponge, and was entirely successful. This patient is now twelve years of age, and enjoying robust health.

*Ligature of the Carotid Artery for Aneurismal Tumor of the Eye.*—Dr. SAYRE stated that he had recently ligated the carotid for aneurismal tumor of the eye, in a case where the disease existed from birth. At first there was considerable improvement, but it has again commenced enlarging. He has been considering the propriety of applying a ligature to the other carotid, and also of resorting to injections of perchloride of iron.

Dr. WATSON considered the practice of ligating the carotid in these cases as justifiable; it was first practiced successfully by Dalrymple. He thought all injections dangerous, owing to the mouths of vessels being patulous. In these cases of varicose aneurism, the disease often involves the arteries for a considerable distance, and the most disastrous results sometimes follow operations upon them. He was particularly struck with this fact several years since, while engaged in studying this disease and its treatment.

May 4, 1855.

*Luxation of the Humerus complicated with Fracture.*—Dr. WATSON related the particulars of a case of luxation of the humerus complicated with fracture. The patient was rather a robust man, past middle age, and had received the injury from a blow on the shoulder from a steam engine. When brought to the hospital he was in a state of great prostration following the blow. On the following morning, being in a proper condition, an examination was made. The arm was found lying close to the side, but its axis inclined an inch or more to the inside of the glenoid cavity; the deltoid was shortened and belled out; the rotundity of the shoulder was good, but this was due to effusion; on manipulation, a fracture was detected, and the head of the humerus lying in the axilla, making the case one of fracture of the humerus near the head, with dislocation of the head. The treatment adopted was immediate reduction. Ether was administered; and while extension and counter-extension was made, and a sweeping motion given to the arm, drawing it from the body, firm pressure with the fingers was made in the axilla, forcing the head towards the socket, and the bone slipped into its place.

The advice given in works on surgery is to treat these cases as simple fractures, and after the union has taken place reduce the dislocation. Dr. W. believes the best treatment is to reduce the dislocation at once. It can, generally, easily be accomplished, if done rightly. He was struck with the facility with which reduction is effected in a case, where, from rupture of the artery, he had to amputate at the shoulder-joint. On exposing the head of the bone lying in the axilla, it returned to the socket on very slight pressure. He reduced a case, similar to the one narrated, several years since, by simply drawing the arm over the back of a sofa.

*Dislocation of Astragulus, and Removal of that Bone.*—Dr. DERMOLD mentioned a case of dislocation of the astragulus, in which he removed that bone. The patient fell from a wagon, and caught his foot in the wheel; the injury was treated as a dislocation, extension

being made with pulleys. It was, however, unsuccessful. Suppuration followed, and protrusion of the bone,—which proved to be the astragalus. This bone was in its proper relation with the tibia, and not with the bones of the tarsus. He removed the astragalus, and brought the foot into its proper position. Every thing at first promised well, but suppuration became free, and the foot turned. He called several months after upon the patient, and found the leg had been amputated by another surgeon. In a similar case he would now amputate at once; he has no confidence in the success of exsection of this bone—of the cases in which it has been done, a long and tedious suppuration has followed, ending in an imperfect cure or loss of the limb.

*Spina Bifida.*—Dr. HOLCOMB alluded to a case of spina bifida, situated over the sacrum, in which the child had croupy breathing when pressure was made on the tumor. The tumor and fontanelles rise and fall with the breathing; there is no hydrocephalus.

*Paracentesis Capitis.*—Dr. DETMOLD stated that he had performed paracentesis capitis about twelve times, twice during the past year, but uniformly without success. In a recent case air was admitted without bad results.

May 18, 1855.

*Treatment of Croup with Dover's Powder and Vapor of Hot Water.*—Dr. WATSON related a case of croup which he had successfully treated with the vapor of hot water, and Dover's powder. The patient was a boy, three years old, who was exposed to cold on the 10th—on the 11th he began to have a croupy cough. He was actively treated by leeching, antimonials, purgatives, calomel in small and repeated doses, etc., but without any improvement of symptoms. Dr. Watson first saw the child on the 14th. The fauces were then very thickly coated with false membrane, and the symptoms of the advanced stage of croup urgent, with the restlessness and jactitation preceding fatal pulmonary congestion. He applied nitrate of silver to the fauces, of the strength of ten grs. to the 3i of water, but with no particular effect, other than the removal of some of the exudation on the swab. He recommended to continue the calomel, and, in addition, apply cloths wrung out of hot water over the throat, and saturate the air of the room with steam, by means of a tin-kettle heated over a spirit-lamp placed near the child's bed, with the following internal treatment, viz.:—Dover's powder, two grains every three hours. On the following morning he found the patient semi-narcotized, bathed in a free perspiration, breathing freely, and in every respect doing well—treatment continued, with the exception of calomel. In

the evening the symptoms were still more favorable. On the following day he was far better, expectoration very free; treatment continued. On the succeeding day he was still improving rapidly, and, at the time of relating the case, on the 18th, he might be considered about well.

This is the second case which Dr. Watson has successfully treated in this manner, both of which were of the worst form of croup. The opium treatment was first suggested to him by Dr. Ware, of Boston, several years since, who always adopted it. As the antiphlogistic action of opium has now come to be generally acknowledged, he would rank this drug among the most important remedies in croup—it acts as a sedative, diminishes the frequency of the respirations, allays irritability, and induces free perspiration. Croup is cured by the softening, breaking-up, and discharge of the false membrane; and nothing tends more powerfully to this end than the warm vapor inhalations, and the free, copious sweatings produced by opium.

Croup was formerly confounded with other diseases, and hence the various and contradictory opinions held by writers as to its contagious character. Home, of Edinburgh, was the first to name it; Bailey, of New York, first detected the false membrane; Baird, of this city, considered it a typhoid disease. The writer of the article, *Croup*, in the *Dict. des Sci. Med.*, thought the disease contagious; Cheyne, in the *Cyclop. of Pract. Med.*, considers such an opinion nonsense. The truth, probably, is, that they saw different diseases, where croupy symptoms may have appeared, but in which true croup did not exist. Thus we see these symptoms in the eruptive diseases, as scarlet fever, etc. He has seen two cases of this kind where the exudation was abundant. In these instances the contagious property is possessed only by the specific disease.

In regard to the operation of tracheotomy, Dr. Watson would prefer to temporize, and wait for the softening and discharge of the false membrane. He would not positively forbid the operation, but considers it a most disagreeable one to perform.

Dr. MINER has operated four times—of these, two patients recovered and two died; the former were under his care, the latter not. The operation oftentimes mitigates the severe symptoms so decidedly, in cases which subsequently prove fatal, that even, though the case be utterly hopeless, he believes that any expedient is justifiable to palliate the most horrible of all deaths. In a case recently operated upon by Dr. Enos, of Brooklyn, it is found impossible to dispense with the tube without threatened asphyxia. This seems due to a growth from the

mucous membrane of the wound, which the tube presses backwards, and thus leaves the trachea free; but on its removal this growth falls into and obstructs the passage. Caustics have been applied, but without relief.

Dr. KRAKOWITZER has operated eight times—twice successfully; one patient died of a fungous growth, springing from the cicatrix, as in Dr. Enos' case. The tube could not be removed, as it alone permitted free respiration.

Dr. DETMOLD remarked that death from croup was due to different causes, as collapse from impaired respiration, and consequent impaired circulation; pulmonary congestion from the same cause; effusion upon the brain; asphyxia, not from obstructions in the trachea, but from loss of nervous power. It long since occurred to him that, acting upon the theory that death was due, in these cases to impeded respiration from failure of the nervous power, rather than actual obstruction in the air passages, artificial respiration long continued would be the most rational treatment. He intends to follow this practice when an opportunity offers. In this manner the nervous system would be supported until the inflammation subsided.

Dr. BATCHELDER thinks the operation is generally too long delayed. With but one or two exceptions, in his own practice, inflammation has followed the insertion of the tube. Ryland, in his treatise on the *Diseases of the Larynx*, alludes to the fact that inflammation usually follows the operation. To avoid this sequela, Dr. B. has tried heat, by elevating the temperature of the air of the room, with success.

*Can there be Fracture of the Cervix Femoris where there is power to flex the limb and carry it across the other?*—Dr. MINER related the case of an old lady who, falling upon the hip ten days before, had shortening of the leg of that side three-fourths of an inch, eversion, ability to flex the leg and carry it across the other, but very painful if carried outward,—trochanter in its proper position; crepitus not distinctly made out. He treated it as a fracture, by extension; and brought the limb down to nearly the length of the other. Several days after, he found there was still some shortening. He inquired, if this was a case of a fracture?

Dr. BATCHELDER had a similar case, which puzzled him very much, until the patient informed him that the injured limb was always the shortest.

Dr. DETMOLD thought there was no doubt of its being a fracture.

Dr. WATSON would not be governed by the amount of shortening.

*Treatment of Ingrowing Toe-nail.*—Dr. DETMOLD alluded to a case

of ingrowing toe-nail, the patient being a pregnant female. He removed half of it, but it grew and became troublesome again, when he removed the whole nail.

Dr. BATCHELDER treats in-growing nails by allowing them first to grow out full length, and then cutting a small gutter a little from the edge, he raises the edge and inserts beneath it a pledget of lint, and retains it until the nail grows. This will take place without creating the former difficulty.

Dr. WATSON treats them in a somewhat similar manner, but not preceding the introduction of lint by cutting a groove in the nail. The edge has no attachment owing to the ulceration existing, and is very brittle.

Dr. MINER recently removed the whole nail, carefully dissecting out the matrix; but it returned, and gave the patient much trouble.

Dr. WATSON stated that he had seen the nail grow from the extremity of the second phalanx after amputation of the first. •

*Emphysema of Neck.*—Dr. WATSON related the particulars of a case of emphysema of the front part of the neck, extending around to the trapezius muscle, and following a contusion of the chest;—no fracture was discovered. He diagnosticated rupture of the trachea as low down as the sternum;—although much injured, the patient recovered. Dr. W. recollected a case of emphysema in which he found a rupture of the trachea as low as the first rib.

Dr. VON ROTHS once performed tracheotomy on a girl 6 years of age, the emphysema commencing in the neck, and extending downwards. The patient died, and on examination no rupture of the trachea was discovered. The examination was very brief, and he thought a more careful inspection would have detected a rupture as low as the bifurcation of the trachea.

*Necrosis of the Femur, with Lengthening of the Limb.*—Dr. POST had lately under observation a case of necrosis of the femur, attended with lengthening of the limb. The disease involved the lower half of the thigh bone of a boy æt. 13; and was of several years existence. The affected limb was, throughout its entire extent, larger than the other limb; and, on measurement, about two and a-half inches longer. This unusual growth of the limb seemed healthy, the whole having the appearance of a leg two or three years older than the other.

*Malignant Disease of both Eyes in a child.*—Dr. POST also mentioned a case of malignant disease of both eyes in a child 3 years old. In one eye, the growth was as large as the fist; in the other, it was just appearing through the cornea, deep in the eye. He could not explain

the fact that both eyes became involved in a malignant disease, unless it was through the medium of the optic chiasm.

*Malignant Tumor with marked fluctuation.*—Dr. WATSON had recently a case of malignant disease, situated in the calf of the leg, attended with no pain or fever; pulse 140; but the fluctuation was very distinct, and had led to the supposition that it contained matter.

Dr. POST recollected a case of cancer, which came under his charge at the N. Y. Hospital several years since, the growth being situated upon the scapula. The sense of fluctuation was very distinct, and so deceptive that eminent surgeons, who saw the patient, were deceived as to its real nature. It grew rapidly also, within the space of two or three weeks, and was attended with considerable pain. As the swelling affected both surfaces of the scapula, the superficial and deep seated, he was led to conclude that it was not an abscess, but malignant disease. He was prevailed upon to make an exploratory puncture much to the aggravation of the disease. The patient soon after died, from the rapid progress of the growth.

Dr. DETMOLD had a case of tumor behind the ear, which grew rapidly with heat and pain and marked fluctuation. He thought it might be a scrofulous abscess; he explored the tumor, but it proved to be cancerous. No harm seemed to come from the operation.

Dr. BATCHELDER thinks that fluid in a tumor can almost always be discriminated, if the examination is properly made. If there is no fluid in the soft tumor, the fingers will rise when pressure is made; but if there is fluid, a wave can be felt to pass under the fingers.

*Cancerous Testicle in a boy.*—Dr. POST removed a cancerous testicle recently from a boy æt. 6, which creaked under the scalpel. It was large, oval, three by four inches in diameter. Cancer has since been developed in the abdomen.

*An anomalous Tumor from the Rectum.*—Dr. DETMOLD presented a small tumor which a child 3 or 4 years old, suffering from prolapsus ani following dysentery, had torn off from the protruded bowel. It was the size of the first phalanx of the thumb,—solid, homogeneous. On passing the finger into the rectum, a small depression was readily detected, about an inch above the sphincter, containing coagula, and from which the tumor was removed. Various opinions were expressed as to its nature, but no definite conclusion arrived at.

*Local Chorea affecting the Face.*—Dr. DETMOLD has a patient, a man, who has been troubled for several months with twitchings of one side of the face. Believing it a species of local chorea, he had thought of dividing the muscles affected, subcutaneously, but lately the patient's



memory has begun to fail, and he apprehends some grave disease of the brain. He is in doubt whether the disease originated in the brain, or is allied to general chorea. He had been treated with iron.

Dr. KILBOURNE stated that he knew a policeman, subject to epilepsy, who had similar twitchings of the face, from which he recovered.

Dr. POST was once called to a young man who had all the symptoms of chorea, apparently induced by eating nutmegs. He ate about a dozen.

*Malignant Pustule.*—Dr. WATSON related a case of malignant pustule which came under his observation since the last meeting. The patient was a young man, of good general health, residing in Brooklyn. A member of the family died a year ago from a similar disease, commencing as a small vesicle on the under lip, and running a rapidly fatal course. On visiting his patient he found him sitting up, appearing cheerful and not at all indisposed. A small blister, like eczema, was noticed on the chin, with some redness around it. The only suspicious symptom in his case was a quick pulse. He made a favorable prognosis. He heard, several days after, that the boy sunk rapidly and died. He thought these cases were malignant pustules, having none of the characteristics of carbuncle.

Dr. POST thought the disease carbuncle, modified by its situation.

#### BELLEVUE HOSPITAL.

*History and Early Organization.*—BELLEVUE HOSPITAL is one of the oldest and most important medical institutions of New York City. When first established, nearly half a century since, it was a part of the Alms-house Department, and had no separate or individual existence. This department included the penitentiary, the work-house, the lunatic asylum, etc., and the hospital department was devoted to the care of the sick from these different establishments. The medical officers consisted of two or more medical students with an attending physician and surgeon.

This organization remained until 1825, when typhus fever broke out in the alms-house and prevailed to an alarming extent—patient and physician alike fell victims to its virulence. The city authorities became alarmed, and appointed a committee of medical men to investigate the sources of this frightful epidemic.\* It was found, as usual, in deficient ventilation, and the want of proper attention to hospital hygiene.

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\* This Committee consisted of Drs. ISAAC WOOD and JOSEPH M. SMITH.

The result of this examination into the condition of the alms-house was the appointment, in 1826, of a resident physician. This office was continued for twenty years, and during that period the medical police of the department underwent no further important change.

The Common Council of New York, which then had supervision of the Alms-house department, impressed with the necessity of a change in the organization of the medical department of the Alms-house, referred the matter to the proper committee for its consideration. This committee called to its aid several of the most distinguished medical gentlemen of the city,\* who drew up a report, and submitted a "Plan for the better Organization of the Hospital Department of the Alms-house," etc. This plan contemplated a division of the Alms-house into two distinct and independent sections; the first consisting of Bellevue Hospital; the second, Blackwell's Island Hospital, including the Lunatic Asylum, etc. The medical organization of Bellevue was to be farther modified by the appointment of the following medical officers, viz.:—a resident physician, six visiting physicians, six visiting surgeons, and eight assistant resident physicians. The plan of this committee was adopted, and Bellevue Hospital became an individual and independent medical institution. The advantages of this change were soon apparent in the better discipline of the establishment, both in its medical and economic arrangements, and especially in its reduced mortality.

*Present Organization.*—In 1849 the medical organization of the hospital was still farther modified by the Board of Governors of the Alms-house, under whose supervision this department had been placed. The office of resident physician was abolished, and that of warden substituted. This latter officer is not a medical man. No farther changes have been made in the medical police of this institution. For the last six years, its present system has worked admirably and efficiently—its wards have been constantly filled, and the results of treatment, as exhibited in the ratio of mortality, compares most favorably with that of other hospitals. The following table exhibits at a glance the mortality in this institution during its transition from an alms-house to a well-regulated hospital:—

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\* The following gentlemen composed that committee:—DRS. JOHN W. FRANCIS, JOSEPH M. SMITH, VALENTINE MOTT, JAMES R. MANLEY, F. C. STEWART, W. PARKER, S. R. HARRIS, JAMES R. WOOD, G. S. BEDFORD, BENJ. DRAKE.

Mortality for 20 years prior to 1847 (average) 20 per cent.

"	"	the year	1847	"	17	"
"	"	"	1848	"	16	"
"	"	"	1849	"	13	"
"	"	"	1850	"	10	"
"	"	"	1851	"	9 $\frac{1}{2}$	"
"	"	"	1852	"	11 $\frac{1}{3}$ *	"
"	"	"	1853	"	9 $\frac{1}{3}$	"
"	"	"	1854	"	10 $\frac{1}{2}$ *	"
"	"	"	1855	"	10 $\frac{1}{3}$	"

Through the liberality of the Board of Governors, the internal arrangements of the hospital have been gradually perfected, so that it is now, in many respects, a model institution. During the last year a new wing† has been added to the old building, four stories high, fifty by one hundred and fifty feet in dimensions, which will accommodate upwards of three hundred patients. The old building is to be enlarged during the present year, by the addition of a new story at an expense of \$85,000. This addition will increase the capacity of the hospital to twice its present size, and allow the easy accommodation of 1,200 patients, and also introduce into the entire establishment all the modern improvements in hospital architecture. A new dead-house is now in process of erection, two stories in high, which will have an ample lecture-room, and all the conveniences for a museum.

When these improvements are completed, this hospital will stand unrivaled in the perfection of its internal arrangements. It will then accommodate upwards of 1,200 patients. Its wards will be spacious and well arranged in all the details of ventilation, heating, etc.; it will have an ample theatre for the purposes of clinical instruction, and all the appliances necessary for the successful treatment of medical and surgical diseases.

An important feature in this hospital is its lying-in-wards. These accommodate on an average about two hundred patients annually, and afford to resident physicians an ample opportunity to study this branch of practice.

*Clinical Advantages.*—Within the last few years Bellevue Hospital has become a resort for medical students in the pursuit of clinical instruction. During the past winter there have frequently been upwards of two

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\* Cholera prevailed.

† This building was opened for the reception of patients on the 23rd of April, on which occasion an appropriate address was delivered by Dr. JOHN W. FRANCIS, President of the Medical Board.

hundred and fifty students in attendance in a single day. The location of all the medical colleges in its immediate vicinity, the free access of medical men to the wards, the care taken by the physicians and surgeons, both attending and resident, to facilitate the investigation of disease and morbid anatomy, render this hospital, at once the most central and most popular institution in the city. If we add to these advantages the infinite variety of diseases to be observed among its thousand patients, we are justified in stating that it is unsurpassed in clinical advantages by any hospital in this or any other country.

*The House Service.*—The following extract from the Annual Report of the Medical Board for 1850 will give a correct idea of the arrangements of the medical service of the hospital:—

“The service of the house is performed by the Medical Board and the House Staff. The first is at present composed of six physicians and six surgeons, two consulting physicians and two consulting surgeons. Two physicians and two surgeons are on duty at once, for a period of two months, twice in the year. During this time they visit the hospital daily, and prescribe and direct the treatment of all the patients. In addition to their regular daily visit, they can be sent for, if needed, at any hour of the day or night. The House Staff consists of four house physicians and two house surgeons, who visit the ward in company with the attending physician, inform him of the condition of patients during his absence, and receive and carry out his directions in regard to them. In addition to this, they visit the wards regularly morning and evening, and as much oftener as the necessities of any of the patients require, being always ready at a moment's warning. Each of these officers has a senior assistant, like him residing in the hospital, whose duty it is to record cases, etc., and to supply his place, when necessarily absent. To these are added the same number of junior assistants, who do not reside in the house, but stand ready, in case of any vacancy, to fill the place of a senior assistant. Of these three classes, the two first are required to be graduates in medicine, and the last must be in the last year of their pupilage. Previous to their appointment as juniors, they undergo a rigid examination before a committee of the Medical Board, and again before promotion to the two upper grades. These situations being much sought for by medical students and recent graduates, the Board generally have it in their power to select the best qualified among them for appointment.”

The opportunity thus offered for graduates to enter the hospital and obtain the advantages of clinical practice, is worthy the attention of preceptor and pupil. The full hospital course is eighteen months,

divided as follows:—six months junior, non-resident; six months senior, resident; and six months house physician or surgeon. Examinations to fill the vacancies thus occurring, every six months, are held in the spring and autumn. The resident House Staff, when complete, consists of twelve medical gentlemen, all of whom are graduates.

The following gentlemen comprise the present Medical Board:—

*Consulting Physicians.*—Drs. John W. Francis, President of the Medical Board, and Isaac Wood.

*Consulting Surgeons.*—Drs. Valentine Mott, and Alexander H. Stevens.

*Physicians.*—Drs. A. Clark, John T. Metcalfe, Benjamin W. McCready, Isaac E. Taylor, George T. Elliott, B. Fordyce Barker.

*Surgeons.*—Drs. James R. Wood, Willard Parker, Chas. D. Smith, John J. Crane, Lewis A. Sayre, John A. Lidell, Stephen Smith.

#### SURGICAL PRACTICE OF BELLEVUE HOSPITAL.

SERVICE OF DR. JAMES R. WOOD.

(Reported by DR. GEO. AMERMAN, House Surgeon.)

*Aneurism of the Femoral Artery—Ligature of the External Iliac—Secondary Hæmorrhage on the eighteenth day—Recovery.*—Samuel O'D., aged 22; born in New York; by occupation a butcher. No hereditary tendency to disease traceable. He has always enjoyed good health. On the 6th of October, 1855, he was shot with a pistol. The ball entered the fleshy part of the left thigh, at the junction of the middle with the upper third, on the outer aspect of the limb, and made its exit on the inner side, at a point somewhat above its entrance. Very little hæmorrhage followed the injury, but the limb became painful and swollen. The pain was of a sharp lancinating character, first felt below the knee and extending down the leg to the foot and great toe. In the great toe the pain was most severe; it lasted about twenty-four hours, and then gradually disappeared; since which time he has had no pain in any part of the limb. The swelling continued four or five days. Antiphlogistic means were resorted to, for the purpose of subduing the inflammation, and cold water dressings applied to the part. He suffered very little constitutional disturbance, and two weeks after receiving the injury was able to walk about the yard. On the fourth or fifth day after he began to take exercise, he observed for the first time, a small, round, soft, and compressible tumor, situated on the anterior aspect of the thigh, in the inferior part of Scarpa's space. Pulsation of this tumor was distinctly perceptible to

both the sense of touch and sight, particularly the former. This pulsation was felt in every part of the tumor, from the commencement. For the first nine days it grew rapidly, subsequently its growth became much slower. He has never suffered any pain, numbness, or swelling, in the limb since he first observed it. There was no discoloration of the integument, no increase or diminution in temperature. Five weeks after he first noticed it, Dec. 7th, 1855, he was admitted into Bellevue Hospital, under charge of Dr. Jas. R. Wood.

At the time of his admission his general health was good. The tumor was situated on its anterior aspect at the junction of the middle with the upper third of the thigh. It was five and a-half inches in its longitudinal, and six inches in its transverse diameter. An equable pulsation was felt in every part of its surface, synchronous with the arterial pulse. Pressure on the cardiac side caused a diminution in size, and total disappearance of the pulsation. Pressure on the distal side caused an increase in size. A "bruit de soufflet" distinctly audible in every part of it,—no *thrill*.

*Diagnosis.*—Femoral Aneurism.

*Treatment.*—Ligation of external iliac artery. The artery was tied above Poupart's ligament, in consequence of the large size of the tumor, and also the inflammatory exudation that had taken place about it, and consolidated the parts.

On the 8th day of December, the operation was performed by Dr. Wood, in the presence of several eminent surgeons of this city, and a large class of students. No anæsthetic was given, as it was thought the vomiting and retching which so often follow their use might be injurious, by causing too great an amount of pressure on the abdominal viscera.

The patient was placed upon the operating table, with his thigh slightly flexed. The external incision commenced over the external abdominal ring, one half inch above, and was carried along the course of Poupart's ligament in a semi-circular direction, with its convexity downwards, and terminating one inch above and within the anterior superior spinous process of the ilium. The abdominal layers were next divided; the transversalis fascia reached, and the finger passed into the internal ring; the fascia was then detached from the peritoneum; the separation began at the internal opening, where it was least adherent, and with the finger for a director, the remainder was divided. The peritoneum was then pushed aside, and held out of the way by an assistant with spatulæ; this brought the vessel in full view; the sheath was opened with the nail of the index finger, and the aneurism needle

passed from within and between the vein and artery. Very little hæmorrhage occurred during the operation, and only three small vessels were tied;—the edges of the wound were brought in apposition, and five interrupted sutures used to retain them in situ; next adhesive strips were applied, then a slight compress, and lastly, a single spica bandage. The patient was placed in bed, his limbs thickly enveloped in cotton, and strict quiet enjoined,—one grain of morphine given to procure sleep.

December 9.—Feels well; no pain or fever; pulse 100; no pulsation in posterior tibial artery.

December 10.—Pulse 140; complains of a slight cough, which causes considerable pain in the wound; the temperature of the limb is less than its fellow; the tumor is greatly diminished in size, and much harder; appetite good.

December 11.—Doing well; pulse, 104; slept well last night, after taking pulv. Doverii, ℞ii.; cough improved.

Dressings removed by Dr. Woodward, and the wound found covered by concrete healthy pus and blood. Slight erythema about the edges; ordered lotio plumbi et opii.

December 12.—Pulse, 90; cough still improving; no appreciable difference in the temperature of the two extremities. Dr. Wood removed all the dressings from the wound, and found it healthy, and entirely united by first intention, except around the ligatures—one of the ligatures was removed. The wound was re-dressed with adhesive strips—lead and opium wash discontinued.

December 13.—Doing well; pulse, 90.

December 15.—Pulse, 82; cough entirely disappeared. All the ligatures came away except the one on the external iliac. Pulsation in post. tibial felt for the first time since the operation.

December 16, 17, 18, and 19.—Nothing worthy of note occurred. The wound was dressed daily with adhesive strips and light dressings.

December 20.—Bowels moved twice freely, for the first time since the operation—appetite good.

December 21.—Pulse, 82. Dr. Wood visited the patient, and finding the ligature of external iliac lying loose in the wound, removed it.

December 26.—Since the last note the patient has been doing extremely well, not a single untoward symptom having presented itself. The wound had entirely closed, except a small opening where the ligature had been placed; it had been dressed daily, and nothing unusual had occurred to attract attention to the case. At 2 o'clock, P.M., he was seen by Dr. Wood. At 3 o'clock I saw him, and he was doing

well. At 4 o'clock Dr. Hitchcock, one of the House Staff, was hurriedly summoned to see him. He found him bleeding profusely. The blood "welled" up from the wound, and so rapidly, that he thought he must have already lost from two to three pints. (The time from the occurrence of the hæmorrhage until Dr. H. saw the patient, could not have been more than two minutes.) Dr. H. immediately compressed the artery and controlled the hæmorrhage. Dr. Wood was sent for, and, after seeing the case, decided to keep up the pressure during the night, and call a consultation of the Visiting Staff the next day at 10 o'clock, A.M. Pressure was kept up, by the hand placed over the artery, without any difficulty, or inconvenience to the patient. His pulse remained good, 100, and full—one grain of morphine given to procure sleep.

December 27.—Pulse, 100; slept the greater part of last night. A consultation was held at 10½ o'clock, A.M., and it was decided to keep up steady pressure with the hand over the artery until a compress and bandage could be safely applied.

December 28.—Doing well; pulse, 100; sleeps well; wound discharging some pus; continue pressure.

January 5.—Since the last note, patient has been doing extremely well; not a single untoward symptom; pressure has been kept up night and day. The wound has nearly united. Pulsation in external iliac entirely disappeared.

January 7.—Same as at last note. Pressure discontinued, and four pounds of shot, with a graduated compress and double spica bandage substituted.

January 15.—Doing well. Two pounds and nine ounces of shot removed; the remainder, with a compress and bandage, applied as before.

January 21.—All the shot removed. Compress and bandage re-applied.

February 11.—Sixty-fifth day after the operation and forty-seventh after the hæmorrhage; patient in good health; he wears a truss over the cicatrix of the wound. The limb is normal in size, temperature, and sensibility. Its nutrition is good. The original tumor has nearly disappeared; it is scarcely perceptible to the sight, but is quite easily felt beneath the skin. The epigastric artery is felt pulsating above the wound. The femoral entirely obliterated; the other arteries in the upper part of the thigh enlarged; the anastomotic magna distinctly felt, and its pulsations are communicated to the remains of the tumor. Patient, discharged cured.



The interesting facts in the above case may be summed up as follows:—The pulsation in the posterior tibial artery was absent until the seventh day after the operation.

On the thirteenth, the ligature from the external iliac was removed.

On the eighteenth, secondary hæmorrhage supervened; five days after the ligature came away.

Pressure by the hand was kept up twelve days, from the eighteenth to the thirtieth day, after the operation. The shot, bandage, and compress were then substituted.

On the twenty-eighth day after the operation, and tenth after the hæmorrhage, pulsation of the external iliac artery entirely disappeared. On the thirty-eighth, part of the shot were removed, the remainder with a compress and bandage applied as before.

On the sixty-fifth day after the operation, and forty-seventh after the hæmorrhage, all the dressings were removed and the patient discharged cured.

The following collection of cases exhibits the dangers of secondary hæmorrhage, complicating ligature of the external iliac:—

*Cases of Secondary Hæmorrhage after Ligature of the External Iliac:—*

Operator.	Ligature separated.	Date of Hæm.	Treatment.	Result.
Abernethy.	----	5th day.	----	Died.
Mouland.	24th day.	----	----	Cured.
Dupuytren.	16th day.	24th day.	Pressure.	Cured.
Todd.	21st day.	24th day.	Lig. reapplied.	Died.
B. Cooper.	----	19th day.	----	Died.
Hewson.	29th day.	6th day.	Pressure.	Cured.
Lallemand.	----	5th day.	----	Died.
Baroni.	19th day.	40th day.	Laid open tumor.	Died.
Power.	----	5th day.	----	Died.
A. Cooper.	----	17th day.	----	Died.
Adams.	28th day.	18th day.	Pressure.	Died.
Smith.	7th day.	----	Pressure.	Died.
Ogden.	----	8th day.	----	Died.
Wood.	13th day.	18th day.	Pressure.	Cured.

*Summary.*—Number of Cases, 14; recovered, 4; died, 10.

*Sloughing Ulcer of Leg, with Caries of Tibia—Amputation of Thigh—Necrosis of Femur following the operation, with spontaneous separation of dead bone.*—James Welsh, laborer, aged 30; born in Ireland; admitted into Bellevue Hospital November 13, 1855; father died of cholera, mother of fever. When 10 years old he injured his right ankle by jumping over a high wall. It was followed by severe pain and swelling, which continued one week. The treatment consisted principally of poultices. At the end of this time a swelling appeared upon the internal malleolus, which suppurated and opened spontaneously. Two months after, a piece of bone, three inches in length, came out. Four months after, an opening formed over the external malleolus, from which a small piece of bone was also discharged. Both openings healed in one year, and he recovered free use of the joint. He was healthy from this time up to 1845, when he contracted syphilis. He came to this country in 1849. In November 1854 he fell and scraped the skin off the anterior part of the right tibia, about its middle. The sore made by the injury refused to heal, and he was admitted into Bellevue Hospital in January, 1855. In May he was discharged cured. After leaving the hospital he became very intemperate, and the sore broke out again. In November 1855, he was re-admitted with a large sloughing ulcer on the right leg, and necrosis of the right tibia. On the 8th of December it was deemed advisable to amputate the limb at the middle of the thigh. Dr. Jas. R. Wood performed the operation, making an anterior and posterior flap. He lost very little blood, and rallied well after the operation. A large anodyne was given at night, to procure sleep.

December 9.—Pulse 120, and irritable; tongue dry and slightly furred; complains of great pain in the stump, which looks erysipelatous; considerable discharge of unhealthy and offensive pus; ordered brandy to be given freely, good diet, anodynes at night, and cold bath dressings applied over the part.

December 10.—No better; the sutures and part of the flaps are in a sloughing condition; dressed with a solution of chloride of soda, and stimulation carried to its highest point.

December 11.—Part of the flaps have sloughed; the end of the bone projects half an inch; stimulants and anodynes freely given.

December 12.—The sloughing had discontinued; the parts more healthy, but the end of the projecting bone was denuded of periosteum, and carious.

From this time until the 15th of February the disease in the bone

slowly progressed. It was readily traced upward with the probe, and its progress accurately ascertained. The soft parts slowly granulated, and contracted about the dead portion. At no time would the strength of the patient admit of re-amputation. He was given tonics, stimulants, anodynes and good diet. On the 15th of February, the necrosed bone spontaneously separated itself from the healthy part and a piece four inches in length came away, leaving the endosteum and periosteum intact. A probe could now be passed up between the endosteum and periosteum, or within the endosteum. Each of these membranes formed a hollow cylinder, that formed by the endosteum being placed within the other.

*Dislocation of Head of Femur into Ischiatic Notch, Reduced by Reid's Method.*—Patrick Galligan, aged 28; born in Ireland; was admitted into Bellevue Hospital on Saturday the 23rd of February, 1856. He was a healthy, robust man, with unusual muscular development. About two hours previous to his admission, he fell from a scaffold thirty feet in height; and injured his right hip. Upon examination the limb was found two inches shorter than the other. The knee was in advance of its fellow, and the ball of the great toe rested upon the instep of the opposite foot. The trochanter approximated the dorsum of the ilium, and was nearer the anterior superior spinous process than natural. The nates was flattened and enlarged. Upon making extension, the leg could be drawn down to its normal length; and during extension rotation gave a crepitus very much resembling an osseous one. As soon as traction ceased, the shortening again returned. When the limbs were placed parallel, abduction was impossible. The obscurity of the case rendered it absolutely necessary to etherize the patient, before any conclusion as to its nature was arrived at. As soon as he was perfectly under the influence of the anæsthetic, it was diagnosticated as a dislocation into the ischiatic notch. Dr. Wood, with the assistance of Drs. Parker, Sayre, and others, proceeded to reduce it by Reid's method. Reduction was easily accomplished. The head of the bone was plainly felt as it was dislodged from its position, and also its curved motion on the dorsum of the ilium. It produced a sound distinctly audible ten feet from the patient, when it slipped into the acetabulum. The next day (25th) the patient was discharged cured.

This is the third case of dislocation of femur which Dr. Wood has reduced by manipulation alone.

PART SECOND.

CRITICAL ANALYSIS.

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ART. IX.—*The Obstetric Memoirs and Contributions of* JAMES Y. SIMPSON, M.D., F.R.S.E., Professor of Midwifery in the University of Edinburgh. Edited by W. C. PRIESTLY, M.D., Edin., and HORATIO R. STORER, M.D., Boston. Vol. i. Philadelphia: J. B. Lippincott & Co., 1855, royal 8vo., pp 756.

THAT some physicians write *for* practice, and some *from* practice, is as true as that the great majority of medical authors belong to the former class.

With the latter, the name of Dr. Simpson is identified. His immense practice serves as a crucible to purify medical truths and discoveries; while, from his commanding position, the result is immediately proclaimed to the profession.

There is no niggard withholding of the process; every step, with all its attending doubts and uncertainties, is placed before the world, and the whole is subjected to the severest logical and mathematical test; and where an error has crept into the calculation it is probable that Simpson, himself, will be the first to hasten to proclaim it to the world.

The work before us teems with valuable truths, which shed a flood of light on some of the most obscure diseases which medical men are called on to grapple with; and may be pronounced, unhesitatingly, to be absolutely necessary to the physician desirous of doing his duty to the class of diseases wherein malapraxis and empiricism are most rife.

When one reflects on the prodigious labor and talent necessary to create, test, and publish the mass of original matter contained in this volume, with all the harassing responsibility and toil attending the daily duties of a physician and professor, in whose house ninety patients have been counted in one day—when one superadds to such consideration the fact that the volume in question does not contain those publications which have placed Dr. Simpson pre-eminent as a controversial writer in medicine, and as an antiquarian—and, that all these results come from the unwearied industry of a man not *forty-four* years of age—we are prepared to appreciate this towering intellect.

Those who, like the writer, had the good fortune to possess most of these valuable papers, before their collection in the present form, can well appreciate the boon to the profession which this work will prove; and, though every remedial measure therein contained should be shortly superseded by others more efficient, yet the volume itself would serve as a monument of the extraordinary grasp and concentration of thought of its author.

Drs. Priestly and Storer may well be envied the gratification of bringing together these scattered papers, under the immediate revision of Dr. Simpson, and in the enjoyment of his companionship; and we trust that Vol. i. may not be long without its mate.

Their duty consisted in presenting in this form all Dr. Simpson's obstetric writings up to April, 1855, from which one unimportant article alone has been excepted; and they have increased the value of the book to the man engaged in practice, by classifying them according to the subject; while foot notes have been added where reference might be facilitated, or where later observations, by Dr. Simpson, have increased his knowledge of the subject.

The volume is thus naturally divided:—

PART I.—Special pathology of the unimpregnated female.

PART II.—Physiology and pathology of pregnancy.

PART III.—Natural and morbid parturition.

The chief characteristics of all the papers are the skill, research, and originality applied to the discovery of new methods for treating the diseases therein alluded to; or the battery of facts and arguments placed around a principle unrecognized, or wrongfully regarded by the profession.

The manner in which the same resources are directed to the demolition of views of practice, based on mistaken statistical deductions, might be found in the controversy with Dr. Collins or Dr. Henderson, though the former appears shorn of its details, and the latter is of necessity omitted.

Indeed, we sincerely hope that the analysis of Dr. Collin's Report on the Dublin Lying-in Hospital will be extensively read; showing, as it does, the unsound rules of practice deduced by Dr. C. from statistics, (so laboriously and faithfully collected), through a fundamental error in his calculations.

Part I. opens with a Lecture Introductory "to an unpublished series on Uterine Diagnosis," which sums up the value of the Rational or Dynamic, and Physical symptoms.

The classification of the means of physical diagnosis shows that four

out of nine owe their discovery to Dr. Simpson, viz. : the uterine sound, sponge tents, exploring needles, and the application of anæsthesia.

The first-mentioned instrument has a large space devoted to its history and uses. The latter may be thus stated :—

“Physical examination as hitherto practiced seldom enables us to ascertain accurately the organic condition of more than the cervix and lower part of the body of the uterus.

It is possible by the uterine sound or bougie, introduced into the uterine cavity, to ascertain the exact position and direction of the body and fundus of the organ—to bring those higher parts of the uterus, in most instances, within the reach of tactile examination, and to ascertain various important circumstances regarding the os, cavity, lining, membrane, and walls of the viscus.”

All of which propositions are conclusively established, and corroborated by the general experience of the profession. Perhaps its value can be nowhere better shown than in its application to retroversion; and the writer can never forget the first time that Dr. Simpson allowed him to examine its action in the reposition of a retroverted uterus, which had been diagnosed as a stricture of the rectum, and perseveringly bougied per anum.

Of all the instruments contrived by Dr. Simpson, we believe that the uterine sound will be the most enduring and the most useful.

The sponge tent is but a step forward in the same direction; and, while the principle can never be disregarded, it is probable that other tents may be prepared equally effectual, and less liable to produce irritation, or the unspeakably fœtid discharge which attends their use.

The elm, recently recommended, (by Dr. Storer, we believe), appears to possess some of these qualities.

Case X. in the paper on the “Detection and Treatment of Intra-Uterine Polypi” is a model case for the novel application of these instruments to the detection “of two or three small slender polypoid bodies hanging from the very fundus of the uterus.” Without this treatment the patient’s case would, in all probability, have been a hopeless one; since, otherwise, their ablation was impossible; and, even as it was, a summer in the country did not remove the anæmia, consequent upon the flooding which these tumors had occasioned.

A remarkable treatment of a remarkable fibrous tumor is detailed in a separate paper, where by means of the “caustic potass (a caustic very much used by Dr. S. in indurations of the cervix), an opening was made in the most prominent part of the tumor, about one inch behind the os uteri,” when the tumor could be separated from its ute-

rine envelope with great ease by the fingers. The artificial opening enlarged like the os uteri in labor, and the tumor protruded. Finally, with the aid of chloroform, the mass was enucleated by the hand, and removed—when it was found to weigh three pounds and eight ounces.

Dilation and incision of the cervix uteri in dysmenorrhœa; the injection of iodine in ovarian cysts; tapping in ovarian dropsy; the great question of ovariectomy, are among the surgical questions considered in this part of the work; while amputation of the cervix, with the reasons for its justification and its results, receives appropriate attention.

In alluding to cauliflower excrescence, Dr. S. speaks of it as “a disease which always takes on malignant action, whatever difference of opinion may exist as to its pathological nature, in the incipient stages.”

The writer had the opportunity in Edinburgh of witnessing the performance of the last named operation twice, and in both instances, for cauliflower excrescence, and the point in the operation which struck him the most forcibly was the extent to which the uterus could be drawn down by the strong vulsella introduced into the healthy tissue above the disease. The patient being in both instances profoundly anæsthetized. There can be no better physiological illustration of the extent to which the uterus can be temporarily displaced; a point made elsewhere in this volume in reference to the uses of the uterine sound.

Among the various topics considered in Part I., the numerous articles devoted to the consideration of the special uses of medicines, are not the least interesting; and in the details of the use of iodine, medicated pessaries, chloride of zinc, potassa fusa, gallic acid, furfurine, the sulphate of nickel, the salts of cerium, etc., etc., we recognize the restless research which prompted the trial of agent after agent in the many experiments which lead to the selection of chloroform as an anæsthetic. Part I. contains, moreover, the description of means employed by Dr. Simpson, to rectify mal-positions of the uterus, with drawings of the instruments devised by Dr. Simpson, and which have occasioned so much discussion.

We can personally endorse the statement of the editors, that we have seen patients under the care of Dr. Simpson, wretched invalids for years, “and from their employment, enjoying comparative health and comfort.” We have also seen “such irritation produced as to necessitate the withdrawal of the instrument.” While, however, instruments producing such favorable results in such competent hands, may be shown to be dangerous, and, therefore, inexpedient;

yet the position and experience of the inventor, demand that they should receive dispassionate consideration.

This part concludes with the interesting paper on the "alleged infecundity of females born co-twins with males."

Part II. contains only five papers, and but one of any length, viz. : on the "duration of human pregnancy;" in the course of which it is stated, that, in the absence of all "reason why the period of pregnancy should be thus stable and invariable," while all other periodic processes in the human body are known to vary extremely, it would be against all analogy "to suppose that such variations did not occur in regard to the function of gestation.

Two of the remaining papers relate to the treatment of hæmorrhage in abortion, and the vomiting of pregnancy; while a third formulates theories for the influence of the death of the fœtus on its retention or expulsion; and the last exposes the risk of relying implicitly on the areola as a sign of pregnancy.

Part III. contains the substance of the best laws for the management of difficult cases of labor, threatening or demanding operative interference, that have fallen under our observation in any work published in Great Britain.

We sincerely trust that the precepts and example of Simpson, Rigby, and Radford, may counteract the influence of such rules for resort to the forceps and turning, as are given by Osborn, Collins, and Robert Lee.

The article on "Turning, as a substitute for Craniotomy and the Long Forceps," though written like the rest, in moments of respite from other engagements, demands the careful study of every man who gives attention to difficult cases of labor.

The rules for the operation of turning, contained in the article on "Transverse Presentations," are admirably clear, and reliable in practice; as, according to our experience, are the views relating to the mechanism of pelvic presentations, and those in the articles on the "Mechanism of Labor," and the "Irregularities of Head Presentations."

While residing in the Lying-in Asylum of this city we had many opportunities of noticing that movement of the occiput, from its original presentation at the right sacro-iliac synchondrosis to the right foramen ovale; and the remarks of Dr. Simpson on the incongruity between the observations of Boivin and La Chapelle, and those of Noëgelé, appear to us very satisfactory.

*"The observations of Noëgelé were, we believe, made by himself in*



*most of, if not in all, the cases to which he refers; most of those of La Chapelle and Boivin, by females attached to the Maternité Hospital of Paris. The observations at the Hospital were collected without there having been previously strongly pointed out a great source of fallacy in confounding the second and third positions, and those of Noegelé, with a perfect knowledge of, and a view to, this fallacy."*

In this connection we may glance at the allusions to two well-known New Yorkers as very palpable hits, though made with such grace and skill as will, we doubt not, command the admiration of the wounded. The chapter on spontaneous evolution contains some pithy suggestions of importance.

In reference to the "Cephalic" evolution, the writer may be permitted to say that he had a case in the N. Y. Lying-in Asylum, where the second child of twins presented the right shoulder distinctly at the brim, and was delivered head first by natural uterine contraction alone.

M. H., aged 27, second confinement, May 19th, 1853, delivered of twins, girl and boy, thus: 4 A.M.—Os partially dilated; membranes unruptured; small amount of liquor amnii; breech of female child presenting; sacrum to the left foramen ovale; summum of intensity of foetal heart to right side of mother. 8 A.M.—During my absence from the ward, a living female child was sent clear into the world, breech foremost; I arrived immediately, separated cord, and found a second presenting right elbow, with head in right iliac fossa; foetal heart beating; sent for Dr. Beadle, in accordance with by-laws, and presently a tremendous pain dislodged the head—and previously forcing down the right elbow, the two together traversed the straits with unruptured membranes, and were wholly expelled, bringing part of the placenta external to the vulva; child alive; placenta single; under microscope, no fatty or other degeneration; first weighed  $7\frac{1}{2}$  pounds; second weighed  $4\frac{1}{4}$  pounds; placenta,  $1\frac{3}{4}$  pounds.

That Dr. Simpson, who is always devising something new, should have invented a pair of forceps, is not surprising; for few men in high obstetric position may not confess to that weakness, as though the numberless modifications of the Chamberlen's instrument had not already supplied us with all that is necessary in the way of modification; but he has also modified Noegelé's perforator, and shown decided originality in the invention of his "Air Tractor."

In using Dr. Simpson's forceps, to deliver when the head was in the superior strait, we found that the breadth between the points of the blades and the looseness of the lock, offered disadvantages in the

necessary traction, that more than counterbalanced the benefits of the transverse rests. We found that the head of the child could not be so securely held as with forceps that could be firmly screwed together, and with blades approaching more closely at the extremities; and we remember that in a case at the Edinburgh Maternity Hospital, where Drs. Simpson, Weir, Duncan, and Mathew delivered in deformity of the brim, that the forceps slipped more than once in the traction, though in that instance the slipping may readily have occurred just when the sagittal suture changed its direction from the transverse to the oblique diameter.

The instrument which we employed was, however, made by Weiss, of London, and not in Edinburgh; though there is but the difference of one tenth of an inch at the point referred to.

We have twice used the air tractor, but found that the difficulties of its introduction and application, with the annoyance of having it slip with a loud suction noise just when strong traction was fairly commenced, have decided us to give the preference, in future cases, to the forceps.

In one of the cases, where the head was in the position where the forceps could be applied, in the words of Dr. Collins, "by any practitioner of moderate experience," we completed the delivery after more than one application, but with more difficulty and bother than the forceps would have demanded; while in the other, forceps terminated the labor.

Dr. Simpson brings, as usual, a mass of the most ingenious reasoning and illustration to the support of what seems his pet obstetric instrument, and points to very successful applications; while a foot note appends the substance of the testimony in its favor, of an anonymous practitioner in England.

That the instrument is capable of maintaining a pressure of over 70 lbs. when satisfactorily applied to a ball attached to a spring balance, we are convinced from personal observation; which has also convinced us that, in its present state, it cannot compete in advantages with the forceps.

The very sound remarks of our author, on the Cæsarean section, derive additional interest from the caution in prognosis demanded.

We refer to the Cupar case, which so gratified Dr. Lee, where, in a case selected for the section by Dr. S., a putrid fetus passed unaided, which was capable of subsequently being drawn through an opening  $2\frac{3}{8}$  inches in its largest, by  $\frac{7}{8}$  of an inch in diameter.

The views of Dr. Simpson on placenta prævia are here fully repro-

duced, and derive additional interest from being brought within the reach of the profession, simultaneously with the prize Essay of Dr. Trask.

We had an opportunity of witnessing the removal of the placenta by Dr. S., in a young primipara but six months gone, and of convincing ourselves that no hæmorrhage took place from that time till the birth of the child.

That we have not been able even to mention the headings of all the chapters of value in this remarkable book, can readily be understood; but we trust that we have done enough to shew the reader that we presented at the outset no exaggerated estimate of its value.

That the author may long live to advance the science of medicine, to charm the stranger with his graceful and refined hospitality, and ever to enjoy the—

“Honor, love, obedience, troops of friends,”

which now encircle him, is the heartfelt wish of the reviewer.

GEO. T. ELLIOT, Jr.

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## BIBLIOGRAPHICAL NOTICES.

ART. X.—*Army Meteorological Register, for Twelve Years, from 1843 to 1854, inclusive. Compiled from Observations made by the Officers of the Medical Department of the Army, at the Military Posts of the United States.* Prepared under the direction of Brevet Brigadier General THOMAS LAWSON, Surgeon-General United States Army. Published by authority of Hon. JEFFERSON DAVIS, Secretary of War. Washington: A. O. P. Nicholson, Public Printer. 1855. pp. 763.

THE present magnificent volume is the fourth Meteorological Report emanating from the Surgeon-General's office since its creation, in 1818. The first registers seem to have been made in 1819, but it was not until 1821 that the Medical Department of the Army was fully organized, when it was made one of the duties of the surgeon “to keep a diary of the weather, and to note everything of importance relating to the medical topography of his station, the climate, diseases prevalent in the vicinity,” etc., and transmit it quarterly to the Medical Bureau at Washington. The results of the observations for 1820 and 1821 were published at the close of each year; subsequently they were published in a series, the first volume embracing the years 1822—1825; the second, 1826—1830; the third, 1831—1842; the fourth, is the present volume, 1843—1854.

The instruments first used were only a thermometer and vane; the observations being limited to the temperature of the air, and course of the winds. In 1836 a rain gauge was added, and in 1843 the system of

observations was still farther improved, by increasing the number of daily observations, and supplying a more complete set of instruments.

The volume was compiled by Richard H. Coolidge, M.D., Assistant Surgeon of the U.S. Army, under the direction of Surgeon-General Lawson, and assisted by Lorin Blodget, Esq. The reduction of the vast amount of material which had accumulated during twelve years, was a task of no ordinary magnitude, as this ponderous quarto sufficiently attests.

The value of the present volume is greatly enhanced by a series of colored, isothermal charts, and hystal or rain charts, which exhibit the distribution of heat and rain in the several seasons, and in the aggregate over the whole surface of the United States and Territories. These charts were designed and prepared by Prof. LORIN BLODGET, who formerly was in charge of the Meteorological Department of the Smithsonian Institution, and who is one of the most able and enlightened cultivators of this branch of science in this country. We may here remark, that, while engaged in the Smithsonian Institution, Prof. BLODGET prosecuted with great diligence and success a system of investigation into American Climatology, which, if completed in the spirit and large conception which characterized its commencement, would have added immeasurably to the reputation of that nondescript institution, and in some degree have realized the grand idea of its founder. There are few who are qualified by natural bias, and subsequent studies, for the pursuit of dry statistical research; but such a student we believe Prof. BLODGET to be, and we confidently anticipated witnessing as the completion of his labors a complete treatise on American Climatology. We deplore the loss which Science sustained in the summary ejection of this officer from that institution, and the sudden termination of his laborious investigations.

We can but regard it fortunate, however, for the Surgeon-General, that in the preparation of this volume he was able to secure the assistance of so competent a person as Prof. BLODGET, and it may be considered still more fortunate for Science that the latter has been able, through the liberality of the former, to give publicity to some of the results of his research.

The concluding portion of the work, consists of a report upon the distribution of heat and rain over our territory, based on the returns to the Department, and as illustrated in the charts. This report is the most valuable portion of the volume, and distinguishes it from its predecessors.

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**ART. XI.—***Practical Treatise on the Diseases of Children and Infants at the Breast.* Translated from the French of M. BOUCHUT, with Notes and Additions by P. H. BIRD, F.R.C.S. John Churchill, London; S. S. and W. Wood, 261 Pearl-street, New York.

THE frequent sickness, and great mortality of early life, and the fact that the pathology of childhood is peculiar and obscure, render a

work like this a very valuable addition to medical literature. The French physicians possess facilities for the study of diseases, not found in any other country, and their publications, especially as regards symptomatology and the means of diagnosis, are vastly superior to those emanating from any other source.

The Treatise of Bouchut extends to upwards of seven hundred pages. It is enlarged to this size, not by verboseness and speculations, but by the multitude of important and useful facts it contains. Unlike any other work of the kind yet published in our language, it treats especially of the diseases of infancy, or of the nursing child, and with such completeness as will afford essential help to the physician in this vexatious and disheartening branch of practice.

In *Part I.*, consisting of seven chapters, Bouchut treats of the hygiene, and physical education of young children.

*Part II.*, consisting of eight chapters, relates to the general pathology of infancy.

*Part III.*, consisting of twenty-six books, and each book of from one to nineteen chapters, treats of the special pathology of infancy. The concluding pages contain a valuable formulary of medicines, which greatly enhances the value of the work. Parts I. and II., and many of the chapters in Part III., end with aphorisms, recalling and impressing the leading facts upon the memory. We will extract a few of these to give a better idea of the value of the publication.

Opening to the chapter on pneumonia, we find it concludes with thirty-three aphorisms, as follows:—

“Primary pneumonia, which is also called pneumonia d'emblée, is rare in children at the breast.

Pneumonia usually follows simple bronchitis, or bronchitis complicating fevers, or acute febrile diseases.

Primary pneumonia is usually lobar.

Consecutive pneumonia is always lobular.

Lobular pneumonia is sometimes discrete, sometimes confluent.

The pneumonia of children at the breast is almost always double, and usually attacks both lungs.

Lobar or lobular pneumonia is observed under two anatomical forms, slightly differing as to structure; these are intra-vesicular and-extra-vesicular pneumonia.

Intra-vesicular pneumonia, usually primary, leads to congestion and thickening of the walls of the cells of the lung, with the formation of an internal plastic deposit, which constitutes the character of red and gray hepatization.

Extra-vesicular pneumonia, always consecutive, only produces congestion and thickening of the walls of the pulmonary vesicles, without fibrinous plastic secretion in the interior of these vesicles.

Chronic pneumonia, more common in the infant at the breast than in the adult, is always lobar.

Pneumonia often engenders the formation of fibro-plastic miliary granulations in the interior of the cells of the lung, in lymphatic and scrofulous children, or in the issue of parents tainted with scrofula.

The development of lobular pneumonia is favored by the crowding of children in the wards of a hospital.

Ordinary and frequent cough, accompanied by fever and anhelation, should make us fearful of an invasion of pneumonia.

Expiratory, groaning and jerking respiration is a certain sign of the existence of confluent lobar or lobular pneumonia.

Panting respiration, accompanied by a continual movement of the nostrils, is a sign of pneumonia.

Dullness of the chest is generally but slightly defined in the pneumonia of children at the breast.

When dullness of the chest exists in a young child with a very bad cold, pneumonia should be feared.

Dullness confined to one side of the chest in a young child rather indicates pleurisy than pneumonia.

The subcrepitant rale which accompanies the cough, the fever, and anhelation, confirm the diagnosis of confluent lobular pneumonia.

Bronchial respiration, which is rare in children at the breast, always belongs to lobar pneumonia, and sometimes to confluent lobular pneumonia.

Bronchophony, that is to say, the resounding of the cry, indicates that pneumonia has arrived at its last stage.

The exaggerated vibration of the thoracic walls at the time of the cries, indicates pneumonia, whilst their absence, on the contrary, points out the existence of pleurisy with considerable effusion.

The acute or moderate fever at first continued, presents numerous exacerbations in the course of pneumonia.

Primary pneumonia, or *d'emblée*, is less severe than consecutive pneumonia.

Pneumonia consecutive to simple pulmonary catarrh is often cured.

Pneumonia consecutive to measles, scarlet fever, small pox, is a very serious disease.

The pneumonia of children at the breast is, especially, a serious disease, in consequence of the complications which precede or follow its development.

The pneumonia of children at the breast has a great tendency to pass into the chronic state.

The pneumonia which is consecutive to the development of fibroplastic miliary granulations, or to tubercular granulations, is usually fatal.

Expiratory, groaning, and jerking respiration, accompanied by movements of the nostrils, announces that the life of the child is in great danger.

The swelling and œdema of the hands, or of the feet, which comes on in the course of pneumonia, indicates an approaching death.—(Trousseau).

The return of the secretion of tears, which has been suspended in the attack of pneumonia, is a good augury for its favorable termination. (Trousseau).

One or two leeches at short intervals, several blisters in front of

the chest, and doses of ipecacuanha, are sufficient for the treatment of simple acute pneumonia."

The above quotation is a fair sample of the work. While the author enters so minutely into the investigation of the diseases of early life, the remedies he directs are few and simple. There can be no doubt that a large proportion of children treated are sacrificed by ignorant and tentative medication; and he will do an invaluable service, who will throw such light on the complaints of early life as to facilitate their diagnosis.

M. Bouchut has treated of many diseases entirely omitted, or but cursorily noticed, in our standard works in this branch of medicine, and we predict for his labors a favorable reception and lasting popularity.

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ART. XII.—*A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum.* With numerous Wood Engravings. By T. B. CURLING, F.R.S., Surgeon to the London Hospital, etc., etc. Second edition; revised and enlarged. New York: Hippolyte Bailliere, 290 Broadway, 1856. pp. 519.

*Observations on the Diseases of the Rectum.* By T. B. CURLING, F.R.S., Surgeon to, and Lecturer on Surgery at, the London Hospital. Second edition; revised and enlarged. London: John Churchill, New Burlington Street, 1855. pp. 129.

THE work of Mr. Curling on the testis has been a standard authority with surgeons in this country since its publication. The first edition was issued as long since as 1843, a period of time embracing some of the most important discoveries in medicine. A new edition of this work was, therefore, called for, not less from the exhaustion of the former edition, than the numerous improvements of which it was susceptible.

Our knowledge of Mr. Curling's industry in the investigation of the diseases of the testis, and his ability to render his work a complete exponent of the present state of knowledge of the disease of this organ, led us to anticipate with much interest the appearance of the present edition of his treatise. A careful examination of the work confirms our impressions of its character. New chapters have been added; subjects have been so condensed as to give late discoveries and improvements, without adding to the bulk of the volume; while every portion bears the marks of careful revision.

The first 50 pages are devoted to the development of the testis and its abnormalities. The section on *Imperfect Transition of the Testicle*, contains some facts of practical importance. It was the opinion of Hunter that the undescended testicle was in a more imperfect condition than that which had reached the scrotum, and this imperfection was a cause of its remaining in the abdomen. It appears, however, after careful examination of specimens, that the undescended testis is in a healthier state than when lodged in the inguinal canal. In the latter position it is liable to injuries, and is frequently found atrophied. Herein lies a practical question: In a case of undescended testicle,

complicated with a hernial protrusion, shall a truss be applied? This question came before the *Section on Surgery of the New-York Academy of Medicine*, several evenings since, and various opinions were expressed. Mr. Curling very positively advises the application of the truss, and for these very good reasons:—If the testicle does not appear in a year from birth, its descent will be imperfect, and, while lodged in the inguinal canal, it will be subject to injuries, and thus become a constant source of annoyance to the patient. He would even go further, and advise the application of the truss to retain the testis in the abdomen, though no hernia were present. Several cases are given, showing how liable the testicle is to severe injuries while in the inguinal canal, and giving rise to false diagnoses. We recollect one instance where the patient was subjected to the treatment for hip joint disease, the nature of his difficulty not being understood.

Inversion of the testicle is an abnormality which it is well to remember. In this case, the free surface presents posteriorly, and the epididymis anteriorly. Maisonneuve first called attention to this arrangement, and states that he has often met with it. Ricord has also often noticed it.

The subject of *hydrocele* is treated in Chapter IV. at great length, and in all its various phases. Considering the difficulty often attending the diagnosis of hydrocele, when complicated with other affections, as hernia, etc., we deem this one of the most valuable chapters in the work. Orchitis is another disease which the author discusses at length, and in a very practical manner.

The chapter on encephaloid disease of the testicle contains some interesting facts from the prize essay of Mr. Ludlow on the *Diseases of the Testis*. Mr. Curling extracts the following table, showing the frequency of cancer of the testicle at different ages:

Before the age of	5	-----	5 cases.
From the age of	15 to 20	-----	1 “
“	“ 20 to 30	-----	11 “
“	“ 30 to 40	-----	22 “
“	“ 40 to 50	-----	6 “
“	“ 50 to 70	-----	6 “
Total,			51

This is, therefore, a disease of middle life. Its frequency in infancy is remarkable; as also the great exemption of the period of adolescence.

The tendency of this disease to return after extirpation, is very great. The following table, also from Mr. Ludlow's essay, illustrates this fact:—

From 3 months to	6 months	-----	7 cases.
“ 6 “	12 “	-----	2 “
“ 12 “	18 “	-----	4 “
“ 18 “	2 years	-----	5 “
“ 2 years	3 “	-----	4 “
“ 4 “	10 “	-----	1 “
Total,			23



We cannot further notice the contents of this volume, nor, indeed, is it necessary, as the author and the former edition are too well-known in this country to require such introduction.

Mr. Curling's *Monograph on the Diseases of the Rectum*, though now in its second edition, is of much more modern date, having been first issued in 1851. It is a work of much less pretension than that on the *Testis*, but, like the latter, is very complete in its practical details. The Chapters on Hæmorrhoids and Stricture of the Rectum, are especially well written. Indeed, we know of no author whose practice is more rational, and who has a happier facility of expressing his views than Mr. Curling.

There is one circumstance, however, in connection with the issue of these works, to which we desire to call the especial attention of our readers. The volumes before us are the foreign editions, brought out in the usual excellent style of English typography; and are now supplied to the American physician by the Messrs. Bailliére, of New York, at the same price as the reprint. We depart from our usual custom to notice this fact, because we know that many medical men, who desire always to place in their libraries the best editions, and who, consequently, prefer the original English editions, are precluded from purchasing them by the comparative high prices of the original over the reprint.

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ART. XIII.—*Clinical Lectures on the Diseases of Women and Children*. By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery, in the University of New York. Third edition, carefully revised and enlarged. New York: S. S. and William Wood, 261 Pearl-street, 1856.

WE were not more surprised than gratified to receive an announcement of the issue of a third edition of this work. Within the short space of nine months from its first appearance, two editions have been exhausted, and a third is now demanded. This latter the author has taken great pains to revise and improve, as will appear by the addition of a whole lecture, and a lengthy appendix, exhibiting the sequel of a large number of cases, the history and treatment of which were previously given in the body of the work. These additions amount to about forty pages, and greatly enhance the practical value of the volume.

It only remains for us to express our gratification at the favorable reception which this work has met from the medical press of this and foreign countries, and especially from the profession at large.

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ART. XIV.—*Clinical Lectures on Surgery*. By M. NÉLATON. From Notes taken by WALTER F. ATLEE, M.D., Philadelphia: J. B. Lippincott, & Co, 1855. pp. 755.

WE learn from the preface of this work, that it contains the notes taken by the author of the remarks of Nélaton during the years 1851-52-53-54, upon cases to which attention was particularly directed. With how much fidelity Dr. Atlee reports the views of this distinguished

surgeon, we have no means of judging. As the notes of the former do not seem to have been submitted to the latter for correction, we can consider them only, in the main correct.

The range of subjects treated of in this volume is very great; comprising, in fact, almost every variety of surgical accident or disease. We have burns, contusions, cancer, tumors, abscesses, fractures, luxations, necrosis, affections of the blood-vessels, articulations, eye, head, nose, maxillary bones, lip, tongue, breast, anus, rectum, genital organs, bladder, etc., etc. The arrangement of subjects, however, is good, and, by grouping them properly, all confusion is avoided.

The work, as a whole, we regard as a very creditable performance on the part of the author; and can recommend it cordially to the practitioner of surgery.

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ART. XV. — *Principles of Human Physiology*, with their chief applications to Psychology, Pathology, Therapeutics, Hygiene, and Forensic Medicine. By WILLIAM B. CARPENTER, M.D., F.R.S., F.G.S. A new American, from the last London, edition, with two hundred and sixty-one Illustrations. Edited, with Additions, by FRANCIS GURNEY SMITH, M.D. Philadelphia: Blanchard and Lea, 1855. pp. 902.

THERE is not, we are persuaded, in the whole circle of medical authors one more indefatigable than Dr. Carpenter. In the series of physiological works which he is now completing, we have a stupendous monument to his learning, genius, and ceaseless industry. The science, to the cultivation of which he has devoted the energies of his body and mind, is so rapid in its development, that no discovery admits of being stereotyped. The issue of successive editions of his works does not imply, as is often the case, that they are simple reprints. On the contrary, although several editions of this work have already been published, each revised and corrected, "the present edition has been remodelled to an extent which renders it almost a new work."

We cannot specify the additions that have been made to this volume, but will simply say, that, on careful examination, we find them numerous and highly important. The volume is, in truth, a complete encyclopædia of the present state of human physiology.

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ART. XVI.—*A Practical Treatise on the Diseases of the Eye* By WILLIAM MACKENZIE, M.D., Surgeon to the Glasgow Eye Infirmary, etc. To which is prefixed an Anatomical Introduction, explanatory of a horizontal section of the human eye-ball, by THOMAS WHARTON JONES, F.R.S., Professor of Ophthalmic Medicine and Surgery, etc. With one hundred and seventy-five Illustrations. From the fourth revised and enlarged London edition, with notes and additions by ADDINELL HEWSON, A.M., M.D., Surgeon to Willis' Hospital for Diseases of the Eye, etc. Philadelphia: Blanchard and Lea, 1855. pp., 1027.

THIS treatise has since its first issue been a standard authority in ophthalmic medicine. The publication of a fourth edition gives the best assurance of its practical character.

## PART THIRD.

### MEDICAL RETROSPECT.

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#### PRACTICAL MEDICINE.

*The Influence of Occupation on Mortality.*—The attempts hitherto made to determine the influence of professions on health are greatly reduced in value, in consequence of the inadequate data on which they are based. If Ramazzini and Thackrah could have known the facts of the last Census, the observations resulting from their scientific and benevolent labors would have had the authority of natural law. That Census sheds the light of statistical truth on the relation of professions and occupations to mortality, and brings out truths which no less extensive investigation would enable the most sagacious observer to anticipate.

It will be an incalculable advantage to obtain, by means of the next Census, a scientific deduction as to the effect of each kind of occupation on mortality. As the initial step has been taken, we may expect it will be followed by others, in a path which, if beset with difficulties, cannot be traversed without leading to the most important and beneficial discoveries.

The last Census Report gave the number of persons in each occupation in 1851, and the Fourteenth Annual Report of the Registrar-General shows the numbers in those occupations dying at corresponding ages. In this early attempt to arrive at the ratio of occupation to the rate of mortality, it has been found that a difficulty arises from the want of definition of the various occupations, sufficiently clear and determined—a difficulty which can be overcome by giving more detail to future Census operations. It is, for example, found impossible to distinguish the rate of mortality among the different classes engaged in the manufacture of silk, of cotton, of linen, and of woollen, as great numbers of them are grouped together under the designation of "Weavers." "Miners," whether in lead, iron, copper, or coal mines, fall under one general designation; and "Laborers," in the field, or railways, in quarries, and on the roads, are not distinguished from each other in the registers.

Still, there are certain occupations sufficiently defined to obviate all danger of their being confounded, and whose rate of mortality can now be recorded with certainty. We give these classes at the decen-

nial period, ranging from 45 to 55 \* as arranged in a Table (XVIII.) which shows the advancing rate of mortality in twelve occupations.

1. *Farmers*.—Of the twelve classes under consideration, Farmers are the longest livers, their rate of mortality being not quite 12 in 1000 (11.99). The number of English farmers of all ages in 1851, including 2429 graziers, was 225,747, of whom there were 53,608 between the age of 45 and 55. In that year, the total number of deaths among farmers of all ages was 6426, very much below the numbers which would have been registered had these individuals been engaged in other pursuits. These facts prove that the pure air, the daily exercise, the substantial fare, and the other aids to health enjoyed by this substantial class, considerably modify the influence of unfavorable weather, bad seasons, open ports, peculiar burdens on land, and all the other ruinous things which farmers' friends have been accustomed to depict in such gloomy colors.

2. *Shoemakers* hold the next place to farmers, their rate of mortality between 45 and 55 being 15.03 in 1000. They are followed by—

3. <i>Weavers</i> .....	15.37 in 1000.
4. <i>Grocers</i> .....	15.79 “
5. <i>Blacksmiths</i> .....	16.51 “
6. <i>Carpenters</i> .....	16.67 “
7. <i>Tailors</i> .....	16.74 “
8. <i>Laborers</i> .....	17.30 “

As will be seen on inspection, there is among these seven occupations a gradual increase in the rate of mortality, which, considering their great diversity, is quite remarkable. The near approach of these occupations to each other in the scale of mortality, arises from the circumstance that they have peculiar dangers which tend to counter-balance each other. Thus it is to be noticed, that “the tailor is not exposed to the explosions which are fatal to the miner, and the laborer has exercise which is denied to the tailor.”

Ascending this scale of danger we pass to—

9. <i>Miners</i> .....	20.15 in 1000.
10. <i>Bakers</i> .....	21.21 “
11. <i>Butchers</i> .....	23.10 “
12. <i>Innkeepers</i> .....	28.34 “

A great disparity is observable in passing from laborers into the class of miners, telling a tale of dangers, many of which result from criminal neglect. Between laborers and the last four classes in this table there is a most remarkable hiatus. In the classes previously noticed, the difference in no case is more than one in a thousand, and in some instances less. Here the difference begins with three, and mounts up to nine, in a thousand.

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\* The decade from 45 to 55 is the only age to which the Census Returns have been applied in the Fourteenth Annual Report of the Registrar-General. We shall have still more important results when these returns are applied to earlier ages.

The returns show that the highest rates of mortality are found among the butchers (23·10 in 1000), and the class of Innkeepers and licensed victuallers (28·34 in 1000).

The extraordinary mortality of butchers is a fact for which we are indebted wholly to the last Census. The "red-injected face" of the butcher, has produced a wrong idea as to the healthy nature of his occupation. This idea is now corrected by scientific induction, and proper sanatory means will overcome the evil thus brought to light. To quote the significant remarks in the report conveying this fact, here is an important problem for solution: "On what does the great mortality of the butcher depend? On his diet, into which too much animal food, and too little fruit and vegetables enter? on his drinking to excess? on his exposure to heat and cold? or, which is probably the most powerful cause, on the elements of decaying matter by which he is surrounded in his slaughter-house and its vicinity?"

If the rate of mortality among innkeepers, licensed victuallers, and beer-shop keepers should be seized with avidity by the advocates of teetotalism, they must not be forbidden its use; at the same time they must be reminded, that "many highly respectable men of this class lead regular lives, and are of steady habits; but others, exposed by their business to unusual temptations, live intemperately and enjoy less quiet at night than the rest of the community. They are exposed also to zymotic diseases, by intercourse with large numbers of people."

Startling and painful as are these disclosures, they cannot be too widely published. They have a practical value among those who deal with the averages of life, for commercial or benevolent purposes; while, to those more specially concerned, they show the necessity, for their own safety, of employing the measures by which unnecessary disease and premature death may be obviated.—*Med. Times and Gazette.*

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*On Treatment of Intermittent Fever by Iodide of Potassium.*  
By E. F. SANKEY, Esq.—Sir:—Ever since I have resided in this village (now for five years), I have been dissatisfied with the usual treatment of ague by quinine, as in some cases the disease yielded to that remedy, and in others did not. But I could think of no other treatment likely to be successful, though I tried many, including arsenic, till, some three years ago, I read in a number of the *Medico-Chirurgical Review* (I forget which) that the German pathologists considered that congested spleen (ague cake) was the cause, and not the effect, of the disease; and I remembered that Dr. Williams had written on the efficacy of bromide of potassium in such a lesion; but, not having that drug in my surgery, I determined to try the iodide of potassium instead, in the next case of ague that came before me, intending, if that failed, to procure the bromide. But I am happy to say that the object of my writing is to state to my professional brethren that I have used the iodide of potassium now in considerably more than a hundred cases, and have never yet failed in curing the disease very quickly. In some cases, where the disease has been of long standing,

and the patient very much reduced, I have added a grain or two of quinine to each dose of the iodide of potassium; but my general prescription has been for an adult:—

R Potas. ioidid. 3iss; aquæ menth. pip. ʒxij. M. Coch. mag. ij. 4tā  
quaque horā sumend.

So that there could be no doubt what was the remedy that cured the disease. In proof of the value of this drug, I will only mention one case out of all that I have thus treated.

Mrs. Smith, aged 50, sent for me early last month, having suffered from tertian ague, off and on, since September. Not being in very good circumstances, she went to the wife of the clergyman of the parish in which she resided, who very kindly gave her some quinine, telling her it was no use sending for the medical man, as he *must* give her the same remedy. However, not getting well, she sent for me. After hearing what I have related, and finding that she had a tolerable pulse, her bowels open, and motions healthy, with a clean tongue, I sent her nothing but the above mixture; and she never had a return of the ague after the second dose she took of it.

I shall be glad if, by inserting this letter, other medical men will try this remedy, and report to you their experience.—*Association Medical Journal.*

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*On Myeloid and Myelo-Cystic Tumors of Bones: their Structure, Pathology, and Mode of Diagnosis.* By HENRY GRAY, F.R.S.—The author detailed the history of nine cases of tumors of this form removed during life, with a minute description of the results of his own microscopical examination of six of the tumors. The results at which he arrived were as follows:—That these tumors were not of a malignant nature, although in several of the instances given they have been so regarded both previous to and after removal by operation; that, on the contrary, their minute structure bore the closest analogy with the normal constituents of the marrow and other elements of bone in the early periods of life; that their growth is confined to the osseous texture, or its investing membranes, the periosteum and dura mater; that they occur at a period of life when the normal constituents of the medulla exist in the greatest amount, and are developed in those parts of the osseous system in which those structures exist in a most distinct and well-marked form (all the cases given took their origin in the epiphysal ends of long bones); that they are occasionally mixed with the other elements of bone in a rudimentary state, as fibrous tissue and cartilage, and even with bone itself; that they may probably occur in any bone; that since they are thus found to consist of an abnormal amount of some of the normal constituents of the medulla cells, the name "myeloid" given to them by Mr. Paget is most appropriate (the author proposes to add the term "cystic" to such of them as present a mixture of cysts with the structure above described, and regards their fibrous element as most probably derived from the organization of lymph effused as the result of chronic inflammatory action, or from some abnormality in the development and

growth of the fibrous element of bone); that they occur in all the cases at present recorded at an early period of life, and that their growth is generally much less rapid than malignant disease, both which facts afford important diagnostic marks to distinguish them from malignant growths; that the absence of the malignant cachexia, of glandular lymphatic enlargements, and of diseased internal organs, combined with the facts that, although these tumors attain occasionally a considerable size, yet they present no tendency to ulcerate or obtrude externally, and generally retain some surrounding shell of bone within which they have grown, serve as additional aids to the surgeon in forming a diagnosis between myeloid and malignant growths; that they do not return when entirely removed; and that for all these reasons they are to be regarded as innocent tumors.—*Association Medical Journal*.

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*On Laceration of the Perinæum in Primiparæ.* By T. SNOW BECK, M.D.—I have before me the notes of one hundred and twelve cases of primiparæ, observed within the last five years, of which seventy-five, or two-thirds, had laceration of the perinæum through the whole extent; while in thirty-seven, or just one-third, no laceration took place. Unless this result had been fortified by notes made as soon as I returned home, and by the examination of the parts by the eye, as well as by the touch, I might have considered that some error had crept into these observations; but, with the precautions taken, I feel assured of the accuracy of the result, however contrary it may be to previous opinions.

The laceration apparently took place just as the head was extruded. The perinæum was perfect immediately before the head was expelled, and was lacerated after the birth of the child. In a few instances, by keeping the finger on the centre of the perinæum, it was felt to give way, to allow the head to pass; but in the great majority no indication of laceration was perceived until after the completion of parturition. In the interval between the extrusion of the head and the expulsion of the body, the parts were so much on the stretch, that it was impossible to determine with certainty whether laceration had occurred or not; but, as the shoulders passed without the least difficulty through an opening of sufficient size, it appears most probable that the laceration did not take place at this period, but had occurred previously.

Of the seventy-five cases in which laceration occurred, fifteen of these, or twenty per cent., healed by the first intention, and the perinæum was as perfect as before the confinement; while fifty-three, or seventy-five per cent., healed by granulation, and produced a more or less perfect perinæum. In not one instance has any inconvenience followed,—such as prolapsus of the uterus, bearing-down pains, etc.,—and in only one case was there any trouble attending the accident. This case was amongst the first observed, and while my mind was still imbued with the serious consequences which followed laceration of the perinæum. It did not heal by the first intention, and the granulations were small, and showed little inclination to unite into those of the opposite side.

I became anxious, applied different remedies, and, finally, the quilted suture. Nothing which was applied appeared to produce any effect, and the operation of the sutures was decidedly injurious. In the first instance, it frightened the patient; was a source of constant annoyance; produced irritation of the part; and, from the pressure of the silk inducing ulceration of the deeper structures, became loose, and was obliged to be removed. The laceration, however, gradually healed, leaving not more than a quarter of an inch of the rupture unclosed. In this case, the effects of the ligatures were such as to deter me from applying them on any subsequent occasion. In all the cases I have observed, neither the patient nor the nurse was aware that anything had occurred more than usual. The patient said she felt very sore, could not sit up in bed for some few days in consequence, and when she began to sit up out of bed, required a pillow, or some soft substance, to sit upon. But these were considered as "nothing more than usual on such occasions."

Little need be said of the thirty-seven cases wherein laceration did not occur, except that some, at least, were such as might, *à priori*, have been supposed likely to suffer from this accident. The patients were spare, and rather above the average size; the perinæum small in extent, firm, and somewhat unyielding. But in women with this conformation, scarcely one suffered from laceration, and then only when the size of the child was disproportionate to that of the pelvis of the mother; but when the perinæum was broad, thick, and soft, scarcely one escaped being torn through.

It, of course, will remain for further observation to determine whether these cases, taken indiscriminately from the practice of one physician, fairly represent the average occurrence of this accident in women confined with their first child. If it does, then laceration of the perinæum becomes the rule in such cases, instead of the exception; but, even if it does not, it yet shows that this accident is of much more frequent occurrence than has been supposed. These cases further show that when laceration does occur, this will heal perfectly by ordinary attention, rest, and cleanliness. Such, at least, must be admitted from the result of the seventy-five cases, every one of which has healed with little trouble, and none have been followed by any annoying consequences. From these facts we may, I think, advance a step further and conclude that, in cases where the laceration has extended through the sphincter ani, there is great probability that the laceration will heal, in many cases, by the natural process; and that time should be given for this purpose, before any operative procedure is had recourse to.

The majority of those females who form the subject of these observations, have been confined with the second, and several with the third, child; but in no instance has laceration again taken place, and in only one was there a slight tearing, during the birth of a large child, which soon healed. It would then appear that the cicatrix which follows a lacerated perinæum is less liable to give way during parturition than the natural structure of the part.

It is an acknowledged fact that severe laceration of the perinæum,



involving the sphincter ani, has not unfrequently occurred without the accident having been discovered until some time subsequently, by the inability of the patient to retain the motions, and other distressing consequences. And it is also known that tearing of the perineum, up to the sphincter, has taken place, and has not subsequently healed. But we have no information as to the circumstances which have interfered with the healing process, which, these present cases appear to show, usually takes place. My own experience would lead me to conclude, that many cases may, and do, occur, without the medical attendant being aware of the accident. For, although my attention was specially directed to this point, yet several occurred wherein the laceration was not perceived until a careful examination of the parts had been made after the labor was completed. Had this examination, which is unusual, not been instituted, the accident might not have been discovered, either at the time, or subsequently, by reason of the strong tendency which appears to exist for the healing of any tearing or other injury to the generative organs of the female, when the process of parturition has been completed.—*Med. Times and Gaz.*

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EDITORIAL AND MISCELLANEA.

*The Sale of Patent Medicines a Violation of Law—Important Communication from the Clerk of the District Court of the Northern District of New York.*—The following correspondence, which we now for the first time make public, clearly establishes the fact, that the traffic in patent medicines, one of the greatest curses from which the community suffers, by the imposition of empirics, is done under the most shallow pretence of legality. It has always been a mystery to us how honest men could be so heedless of public good, as to legalize the indiscriminate sale of such dangerous compounds as many of these nostrums are; but we here have explained the whole secret. As might have been anticipated, from the character of the men engaged in their manufacture, the sale of these drugs is effected fraudulently.

We trust some measures will be taken to put a stop to the sale of these vile compounds, and bring to justice the violators of law, who poison public health and grow rich thereby. As these nostrums are not truly patented, the secret of their preparation being studiously withheld in defiance of the explicit declaration of our Patent Laws, we would suggest the passage of a law imposing a heavy penalty for the sale of "patented" medicines, when in fact they are not patented, and allow half the fine recovered, to the informer. It would be a truly philanthropic effort, worthy a Howard, or a Mrs. Fry, to secure the community from this terrible infliction of the sale and use of "patent" medicines.

We cannot sufficiently express our admiration of Mr. Conkling's

integrity and enlightened discharge of his official duties. For several years he has uniformly refused to grant these applications to patent labels, from a conscientious belief in the illegality of such proceedings, and a conviction of the worthless character of such compounds. During this time he has not only sacrificed the income which is due from such grants, but incurred the odium and bitter hatred of this miserable class of impostors. In behalf of the medical profession we tender our acknowledgments for the service which he has thus rendered directly to the community at large, and indirectly to legitimate medicine.

From the annexed "circular," it will be seen that Mr. Conkling's views of the Patent Laws, are indorsed by the State Department, and instructions in conformity therewith have been promptly issued by Mr. Secretary Marcy.—*Eds. New-York Journal of Medicine.*

—

BUFFALO, March, 1856.

Dear Sir:—Will you do me the personal favor to furnish me with a written statement of your views on the subject of copyrights for labels, etc., as expressed to me in a conversation yesterday.

Coming from a gentleman of your rank and position, I am certain that they would possess interest; and I would like to give them publicity through some of our Medical Journals.

Sincerely wishing that the public had many more such faithful servants,

I remain yours truly,

AURELIAN CONKLING, Esq.

FRANK H. HAMILTON.

—

DISTRICT COURT OF THE UNITED STATES FOR  
THE NORTHERN DISTRICT OF NEW YORK. }  
CLERK'S OFFICE. }

BUFFALO, March 18th 1856.

DEAR SIR:—I am much obliged for the interest manifested by you in the subject with which I lately troubled you; and although it is probable that in your politeness you over-estimate the importance of the views expressed to you, and of those contained in my letter to the Hon. S. G. Haven, still it is possible that they may be useful to others, and I therefore will proceed to repeat them here, for such use as you may deem expedient. I am much pleased with the polite interest you manifest in the subject under consideration, because, I regret to say, I have heretofore experienced very different treatment from some persons who have found their way into your profession, and who not only so far forgot their professional obligations, as to manufacture nostrums, but were also guilty of low abuse of an officer whose sense of duty would not admit of his being made instrumental, improperly, in imposing their mixtures upon the public.

The immediate purpose of my letter to our representative in Congress, was to invoke the attention of the Department of State to what it seems to me is a great abuse and perversion of the provisions

of law in relation to *copyrights*. The subject of copyrights is under the general supervision and control of the State Department of the United States; and officers who have subordinate duties to perform must, to some extent, be subject to directions and instructions from that department. Applications are frequently made to me, to record, under the provisions of law above alluded to, labels of medicines, compounds, and mixtures, of different grades of pretension, from an "elixir of life" or a "diarrhœa cordial," to a hair-dye or a corn-salve.

Upon the occurrence of the first application of this sort, a number of years ago, being asked my reasons for refusing to treat the subject as one embraced in the provisions of the Act, entitled "An Act to amend the several Acts respecting copyrights," I made the following reply, a recital, in part of which, will express the views which have ever since governed me, upon the subject:

"I am sorry that my views of the Act of Congress, above mentioned are such as to interfere with your interests or wishes. It is not the province of the Clerk of the District Court to 'grant' anything. His duties are ministerial, and upon the subject of copyrights he is bound to do what he is directed to do, by the Act of Congress.

If I should record the *label* sent by you, and should send you a certificate of the fact, I would thereby 'grant' you nothing, nor would you gain anything, unless the Act of Congress embraces such a subject.

I have examined, with considerable care, the Act of Congress above mentioned, and I will state some of my views upon it; from which you will infer that I do not think proper to record a *label* under that Act.

My opinion is, that the 'map, chart, musical composition, print, cut, or engraving,' must have a value as such, and be intended for sale as such; that, whichever it may be, print, cut, or engraving, *it* must have a *title* applicable to itself, which title is to be recorded.

I am also of the opinion, that the Act of Congress was designed to promote the acquisition and diffusion of knowledge, and to encourage the production and publication of works of art, the general purpose being to advance the people in civilization and refinement.

I think, furthermore, that, by the Act to which I have referred, Congress did not intend to prevent the imitations of the stamps and labels of any manufactured article, or goods, or merchandise. That is a subject of such extensive interest and importance, that, if it had been the intention of Congress, to embrace it in the provisions of the law, that intention would have been distinctly and unequivocally manifested. It is not likely, however, that such a provision by Congress will ever be found so much out of place, as it would be in 'An Act to amend the several Acts respecting *copyrights*.'

Furthermore, I am quite certain that Congress did not intend that this Act should be so prostituted, as to be made instrumental in deluding the ignorant and inconsiderate, into the purchase and use of the various nostrums, catholicons, and panaceas, which are so much worse than useless to the community."

It is the practice, I am informed, in many of the Judicial Districts, to make records of such labels as are above mentioned, and I suppose

it is done to avoid the trouble and ill-will engendered by a refusal. It is entirely clear, however, that such a practice is not in accordance with the intention and design of the Act of Congress above mentioned; and I have no doubt that if the mischiefs of the practice were realized, it would be discontinued.

The course of proceeding above mentioned is that by which almost the whole number of the mis-called "patent medicines" are brought forth. It would seem to be unnecessary to state, that there is no force or validity whatever in this proceeding, for such pretended purpose.

There are means provided in the Patent Laws, for securing to any individual the exclusive right to "any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter," which he may invent; and the necessary requirements in order to accomplish the purposes are clearly and definitively prescribed, as follows:—"But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable a person skilled in the art or science to which it pertains, or with which it is most nearly connected, to make, construct, and use the same."

The Act also provides that the inventor shall accompany his application "with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter." The Act also provides, that the applicant shall make oath, that he does not know or believe that the composition of matter was ever before known or used. These and the other requirements of the law being complied with, provision is made for a critical examination into the merits and character of the alleged invention; and, "if the commissioners shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor." This, it will be perceived, is a very different course of procedure from that of filing a label in the clerk's office; and a label, not even indicative of the character of the compound it is to cover. The law, it will be perceived, provides for a truthful statement of the ingredients and proportions of every patented compound. The purpose and effect of the provision are two-fold. In the first place, the means are afforded for an intelligent and careful examination into the countenance of the government; and, secondly, after the termination of the duration of the privileges, secured by the letters-patent, the necessary knowledge is at hand, to make the invention directly available to the public, by furnishing to all, a knowledge of its ingredients and mode of preparation. Moreover, the "letters-patent" themselves, in accordance with their true purport, contain a plain statement of these particulars. There is something *open* in these requirements, and in the whole course of proceeding marked out in relation to patents, and the fact is, just as one would suppose, that there are really very few "patent medicines." The medicines sold as such, are, nearly all of

them, utterly destitute of any real basis for the pretense under which they are imposed upon the public.

If the practice of recording labels of medicines shall be discontinued, in the clerk's offices, one important step will be taken towards clearing away the delusion which prevails upon the subject. And if your profession, with that true regard for the general public good which characterizes its *worthy* members, will take the subject in hand, I have no doubt that you can obtain the enactment of penalties against the sale of any medicines under the pretense that they are, when, in truth, they are not, patent medicines. There has been legislation to prevent the adulteration of medicines; but, it seems to me, that it is a more important end to shield the people against the miserable mixtures, which, as things are now managed, are, by the apparent encouragement of the government, imposed upon them. I regret, Dear Sir, that this letter has necessarily been so hasty; I do not mean, however, to intimate that its positions are not deliberately taken.

Very respectfully,

Your obedient servant,

AURELIAN CONKLING.

DR. FRANK H. HAMILTON,

---

CIRCULAR.

DEPARTMENT OF STATE,  
WASHINGTON, April 11, 1856. }

Mr. -----,

*Clerk of the District Court of the United States.*

SIR:—The Act of Congress approved February 3, 1831, entitled "An Act to amend the several Acts respecting copyrights," is "An Act for the ENCOURAGEMENT OF LEARNING, by securing the copies of maps, charts, and books, etc., to the authors and proprietors of such copies;" and, inasmuch as mere LABELS are not comprehended within the meaning of said Act, you will, for the future, refuse, in all cases, to record or issue a certificate for the same under said Act.

I am, Sir, very respectfully,

Your obedient servant,

W. L. MARCY.

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*Report of the Committee on Tenant Houses in New York.*—The Special Committee appointed by the Legislature of the State of New York, to examine into the condition of the tenement houses in New York and Brooklyn, have presented the following interesting Report:

That, in accordance with the above resolution, they proceeded to New York on the 15th March, and again on the 22nd March, and spent, on the first visit, three days, and on the last four days, in a personal inspection of some of the best-known tenant-houses in the City,

and in receiving from the proper authorities such information connected therewith as it was in their power to furnish. In the brief space of time allowed them for the investigation, your Committee have been enabled to do no more than to glance at evils of such magnitude as to imperatively demand a thorough and searching scrutiny; and they are sensible that their labors will be unattended by any particular result, unless they succeed in impressing upon your honorable body a conviction of the necessity that exists for an extension of their powers, with a view to perfecting some plan of reform upon which future legislation may be based.

At this late period of the session, and when legislative action cannot be taken, it would be a needless encroachment upon your time should your Committee lay before you in detail all the facts they have elicited, and all the sights they have witnessed, in the exploration of the haunts of misery, poverty, and vice in the metropolis. They deem it sufficient for their present purpose to state, generally, that the examination they have made has convinced them that the evils sought to be remedied are of a serious nature, requiring the attention of the State Legislature, and demanding such action at the hands of the present Assembly as will secure their ultimate removal.

In order, however, that your honorable body may appreciate the magnitude of these evils and the injurious influence they must exert upon the prosperity, health, and happiness of the community, your Committee deem it expedient to set before you the following condensed facts:

Partial returns, made up hurriedly by the captains of police for the use of the Committee, show that in twenty-two districts there are over one thousand two hundred tenement-houses, of the lowest description, occupied by not less than ten families each. In some of these as many as seventy different families reside; and into a few, over one hundred families are crowded. A number of these dwellings were visited by your Committee. In one building one hundred and twelve families are gathered, some of them numbering eight or ten members, occupying one close apartment, and others huddled indiscriminately in damp, foul cellars, to breathe the air of which is to inhale disease. Here, in their very worst aspect, are to be seen the horrors of such a mode of living. Here are to be found drunken and diseased adults of both sexes lying in the midst of their filth; idiotic and crippled children, suffering from neglect and ill treatment; girls, just springing into womanhood, living indiscriminately in the same apartment with men of all ages and of all colors; babes left so destitute of care and nourishment as to be fitted only for a jail or hospital in after years, if they escape the blessing of an early grave. Indeed, no language could faithfully depict the suffering and misery witnessed even in the hurried visits paid by the Committee to these hotbeds of immorality, drunkenness, debauchery, and disease.

In the Ninth District, out of seventy houses reported by the Captain of Police as being let in tenements to not less than ten families, forty are designated as in a very filthy condition, unfit for human habitation, and all of these are occupied by from sixteen to thirty-five

families each. In the Tenth District, out of seventy-six houses, several are occupied by as many as seventy distinct families, and are reported as in a filthy condition, without ventilation, and destitute of the accommodations necessary for the use of civilized beings. In the Eleventh District, in which are some seventy houses of a like description, the report says:—"Of all the tenement houses in the district, Folsom Barracks and the Cottages are the most wretched and filthy—alike disgraceful to the owners of the property and the city that tolerates such nuisances. It could not fail to be a matter of surprise to any one who would go through and examine them, that the occupants did not all die of pestilence generated by their unspeakable filth and dissolute habits of living."

In the Thirteenth Ward, in a building known as Manhattan-place, there are ninety-six separate apartments. These are inhabited by 146 families—or more than one family and a-half to each room—numbering in all 577 persons—or about six individuals to each single room. The report of the Health Warden, setting forth these facts says:—"These premises are three stories high, the cellars are in a bad condition, the sinks filthy, and the ventilation poor. In the summer season, these premises are known to be very filthy, and not the least attention is paid to them whatever by either owner or agent—the sole aim apparently being to make money, exhibiting in the same an entire disregard to all law whatever."

In the houses visited by your Committee, sights were presented to them alike startling and painful to behold. In many, whites and blacks were living indiscriminately together—negro men with white women, and white men with negro women. Young faces, haggard with want, and bearing that peculiar look of premature age, imparted by early sin, peered at them from every corner; misery and vice in their most repulsive features met them at every step. Scarcely an apartment was free from sickness and disease, and the blighting curse of drunkenness had fallen upon almost every family. Here and there might be found, it is true, some attempts at cleanliness, some display of a love of home, some evidence of industry and sobriety, with their internal accompaniments, cheerfulness and good health. But these, your Committee found, were, in most instances, families that had not long been inhabitants of the neighborhood in which they lived. The demoralization and ruin apparent all around had not had time to do their work on them. It is to be feared that too soon the miasmal air will creep into their systems, undermining the sturdy constitution, and prostrating its victims on a bed of sickness. Health failing them, want will follow; and then must come crowding rapidly upon them, neglect of home, neglect of children, uncleanness, drunkenness, and sin. This is no fancy sketch—no future of the imagination. It is a stern reality—enacted every day in the midst of luxury and wealth—the natural and fearful result of the rapacity of landlords in an overcrowded city, unrestrained by conscience, and wholly unchecked by legislation.

Many of the buildings that are thus rented to the poor realize for their owners larger annual incomes than do the first-class dwelling-

houses in the best parts of the city. And yet they are estimated by the assessors as almost valueless, and escape anything like a fair taxation, notwithstanding they are the principal cause of the heavy burdens imposed upon the citizens of New York for the support of the criminal and the poor. This is of itself a forcible argument in favor of some active legislation upon the subject of tenement houses.

In these buildings, thus crowded with human beings, there is, with scarcely an exception, but one narrow stairway; and egress to the multitude inside, in case of fire, is an impossibility. Common humanity demands some law against this evil.

Every underground cellar in these tenement buildings, that is not absolutely flooded by water and filth, is made a lodging-room for one or more wretched families. All of these are destitute of any species of ventilation; in most of them the floors are thick with putrid mud, and the pipes and sinks communicating with them from the upper apartments, give out their offensive and deadly gas, and pollute the air of the whole neighborhood. One of the provisions of a law regulating these matters should be directed against permitting an underground apartment of any description to be rented or used as a tenement.

It would be an unnecessary encroachment upon your time to present in detail, the numerous suggestions made by practical builders, and by the Police and Health Officers of New York, who appeared before your Committee, in reference to the best mode of effecting the much-desired reform in the construction and management of tenement-houses, with a view to removing the evils resulting from their present filthy and dangerous condition.

It is sufficient to say, that, in every instance, they concurred in recommending legislative action at the earliest possible moment, and that they were unanimous in the opinion that only through the interference of the Assembly, and the passage of some law regulating the style of tenement buildings, and providing for their management, could the existing evils be properly reached, or effectually remedied. In the views of these parties the entire New York press has concurred; for there is not a paper published in the city that has not warmly approved of the object, for the attainment of which the Committee was formed, and urgently recommended a continuance of its powers during the recess of the Legislature, and until some definite plan of reform has been perfected, to be submitted to the next Legislature for action.

The members of the Legislature, very properly, desirous of protecting the State against needless expenditures, are apt to oppose the extension of a Committee's powers after the adjournment, but your Committee would be remiss in their duty did they fail to urge upon your honorable body the necessity that exists for such action, in the present instance. That the evils complained of really exist, no person will deny. That they need the interference of the Legislature for their removal, all will admit. If the matter should be now ended for the present year, the expenditure that has been thus far incurred would be comparatively wasted, and the next Legislature would, doubtless, appoint a new Committee, who would be compelled to commence the work



anew, and would, in all probability, be unable to accomplish any result during the brief space of time they are enabled to devote to the subject during the session. The expense that would attend the probably fruitless labors of a new Committee, appointed next year, would suffice to enable the present Committee, during the recess, to make a thorough investigation of the matter, to mature a well-considered plan of reform, and to prepare a bill upon which the succeeding Legislature will be able to act.

Indeed, no expenditure that could be incurred in securing the removal of the evils complained of, could be at all commensurate with the benefits and the saving that would result therefrom. To the wretched condition of the dwellings of the poor of New York, can be traced an enormous proportion of the burdens imposed upon the property-holders of the city, and upon the State at large, for the support of paupers and criminals. From the foul atmosphere of the tenement-houses, spring the infectious diseases that so frequently spread through the city, sweeping away thousands, and not confining their depredations to the class with which they originate, but penetrating into the localities occupied by the wealthy, and rendering desolate many a happy household. Hundreds upon hundreds of paupers pour into the hospitals stricken by disease, contracted in these hotbeds of pestilence. From them drunkenness mainly receives its victims; for what will sooner drive men to the intoxicating cup than an absence of all attraction and comfort from his home? From them the brothels of the city are peopled; for the female is early taught to forget all womanly feeling, and inured to a life of shame. From them the jails are supplied; for they are the natural haunts of felons. It is no idle assertion to say, that a reform by which the condition of the homes of the poor could be improved, would remove a large proportion of the criminals from our prisons and the paupers from our almshouses. In London, since the model lodging-houses have been in existence, together with baths and wash-houses for the poor, the mortality has decreased thirty-one per cent., and pauperism thirty-nine per cent. A similar result would attend a similar reform in New York.

The practical results which your Committee will endeavor to secure through legislative action, and to which their inquiries will be directed, are:—

Ventilation and cleanliness in tenement-houses, so that the public health may be protected, the spread of infectious diseases checked, and the expenses of public hospitals and almshouses decreased.

An enactment against permitting the renting of under-ground apartments or cellars as tenements.

Regulations as to building halls and stairways in houses occupied by more than three families, so as to insure easy egress in case of fire.

The prevention of prostitution and incest, by providing that only a sufficient number of rooms, or a room properly divided in separate departments, shall be rented to families, and prohibiting sub-letting.

The prevention of drunkenness, by providing to every man a clean and comfortable home.

In conclusion, your Committee would state, that as they are all residents of New York, or its immediate neighborhood, the expenses attending their labors during the recess would be comparatively trifling, and they therefore beg respectfully to submit, for the consideration of the House, the following resolution:—

*Resolved*, That the Special Committee appointed to examine into the condition of the tenement-houses in New York and Brooklyn, have power to extend their operations during the recess of the Legislature, so far as is necessary to enable them to perfect some plan of reform, and to prepare a bill for the consideration of the next Legislature, some time during the first week of January, 1855.

JOHN M. REED, Ch., A. J. H. DUGANNE, WILLIAM J. SHEA, ELI CURTIS, SAMUEL BREVOORT,	}	Committee.
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*Auscultato-Perussion.*—The *Charleston Med. Jour* states, that an American physician, at Honolulu, Sandwich Islands, has discovered a new method of exploring the internal organs. It consists in applying a stethoscope over the organ examined, and while the auscultator listens, an assistant percusses the adjacent parts. The writer of the paragraph expresses his surprise that so simple a procedure has not suggested itself before. If he will refer to the *New-York Journal of Medicine and Surgery*, vol. iii., p. 62, 1840, he will not only find that this "simple procedure" has suggested itself before, but that, in a lengthened article, under the caption of *A New Mode of ascertaining the Dimensions, Form, and Condition of Internal Organs by Percussion*, two of the most eminent practitioners of this city, Drs. GEO. B. CAMMAN and ALONZO CLARK, thoroughly discussed this subject, and established, with precision, the rules by which it could be applied to physical diagnosis. We have rarely, however, seen justice done to their labors by contemporary writers.

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*Alexis St. Martin.*—The well-known subject of Dr. Beaumont's experiments on the gastric fluid and digestion in the stomach, Alexis St. Martin, recently visited this city, in company with Dr. Bunting, of Montreal, and, at a meeting of medical gentlemen at Dr. Delafield's, he exhibited the opening into the stomach. It will be remembered that this opening was caused by the accidental discharge of a gun, in 1822, St. Martin being then eighteen years of age. In 1825 the experiments were first begun. During the time he submitted to the experiments of Dr. Beaumont, he states that his health declined; and as he suffered considerable inconvenience, he has so carefully avoided medical men since, that no one has been allowed, even to examine the wound, until he came under the charge of Dr. Bunting. He is now fifty-two years of age, in apparently rugged health, and has supported himself by hard daily labor since leaving Dr. Beaumont.

*Lithographic Portrait of Dr. J. R. Wood.*—We have received an excellent likeness of the accomplished surgeon whose article forms the leader in this number of the journal. The following correspondence, in relation to it, has been sent us for publication :—

NEW YORK, February 5, 1856.

DEAR SIR:—At a meeting of the graduates and students of your class, the undersigned were appointed a committee, to solicit you to sit for an Ambrotype likeness of yourself for their use.

In asking this favor, we feel that your acquiescence would be another evidence of the kind consideration of one, whose character, both private and professional, has been an object of their highest regard, and whose untiring efforts for our professional advancement will ever be most gratefully remembered.

We remain, very respectfully,  
Your humble servants,

W. F. LINDSAY, *Chairman*.  
LYMAN FISK, M.D., *Secretary*.  
W. H. NICHOLS.  
W. H. CLUSSMAN, M.D.  
GEORGE F. WOODWARD, M.D.  
SYLVESTER TEATES, M.D.

To Dr. JAMES R. WOOD, No. 2 Irving Place.

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NEW YORK, 2nd Mo. 8th, 1856.

GENTLEMEN:—Your favor of the 5th, requesting of me an Ambrotype likeness, for your use, was duly received.

Some years since, a similar request was made by some of my students; although feeling highly honored, for many reasons, I declined the honor at that time.

The renewed application of the graduates from my office and my present students, now compels me to grant your request.

I remain,  
Very respectfully, yours,  
JAMES R. WOOD.

To Messrs. LINDSAY, TEATES, CLUSSMAN,  
NICHOLS, WOODWARD, etc.

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*Prize Essay on Cholera Infantum.*—The successful essayist for the prize of \$100, offered by the *N. Y. Academy of Medicine*, for the best paper on *Cholera Infantum*, was JAMES STEWART, M.D., of this city, author of the popular work on the *Diseases of Children*. Dr. Stewart, in acknowledging the award, generously directed that the sum be paid to the Treasurer of the Children's Nursery.

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*Cæsarean Section.*—Dr. D. F. OWEN reports (*Charleston Medical Journal*, March, 1856), a case in which the Cæsarean section was performed by Dr. W. H. MERINAR, of Miss., for the third time on the same individual. A living male child was extracted. The mother died on the fifth day after the operation.

*Report on Home Adulterations of Drugs and Medicines.*—The following is a portion of the Report of the Committee of which Prof. Guthrie is Chairman, appointed by the American Pharmaceutical Association :—

The Committee do not design, at present, a full report, as there are still under their observation and that of others who have aided them in this matter, such articles as are usually met with. Some of more, some of less, importance—all, however, sufficiently so, we think, to merit attention and remark. They are mostly articles that have been found on sale in the interior towns and cities, purchased at the cities east, where most of the wholesaling is done. A few instances may be noticed :

*Balsam Peru* has been met with, possessing none of the characteristics of genuine balsam, except in color and consistency, and upon analysis, affording no cinnamic acid.

*Pulv. Capsicum.*—The sample examined had a brick-dust color, little pungency, and filled with yellow specks and strong odor of turmeric. It was a mixture of turmeric and American capsicum, and, of course, almost inert.

*Castor* is found with the follicles filled with saw-dust to half the weight of the castor.

*Opium.*—Since the circular of the Secretary of the Treasury, fixing a percentage of morphia for this drug, a more uniform quality has been found in market; but a great many samples have been observed the past season with foreign substances, most commonly lead, inserted in the lumps, in some instances equal to twenty per cent. of the weight of the mass. We are of opinion that this was done abroad, and probably at the port whence shipped. The different examiners should seek to detect this fraud before passing it.

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*Topical Use of Calomel in Fistula in Ano.*—Dr. J. J. WILLIAMS, of Somerville, Tenn., reports (*New Orleans Med. and Surg. Journal*, Nov., 1855) a case of complete fistula in ano, which resisted injections of tincture of iodine, solutions of nitrate of silver, sulphate of copper, of zinc, etc., and which was cured by the introduction of calomel into the sinus. The calomel was inserted into a small tube, which was afterwards carried to the bottom of the fistula, and there the calomel was pressed out by means of a piston. In this way he filled the fistula full daily. In a short time a cure was effected.

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*Close of Medical Schools.*—Since our last issue, the several Medical Schools of this city have closed their sessions. They are all in an unusually prosperous condition; the attendance being large, and the courses of lectures thorough and complete. The following is the number of graduates from the several schools :—College of Physicians and Surgeons, 39; University Medical College, 97; N. Y. Medical College, 35.

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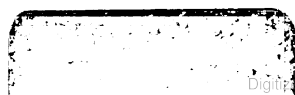














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