Joanne East
1922
The Royal Medical Society of Edinburgh.

BY

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THE ROYAL MEDICAL SOCIETY OF EDINBURGH:
PARTICULARLY ITS RELATIONS WITH THE PROFESSION OF THE UNITED STATES AND CANADA. REMARKS AT THE DINNER OF THE ROYAL MEDICAL SOCIETY, FEBRUARY 2, 1907.

By WILLIAM OSLER, M.D., F.R.S.,
Regius Professor of Medicine, Oxford.

I do not know, Mr. President and Gentlemen, that I ever rose to propose a toast with greater pleasure. I had known, of course, in a vague way, about this ancient Society with its widespread affiliations, and I remember with what satisfaction I received its honorary membership a few years ago; but it was not until I got a few days ago a list of the members that I appreciated the pride which you must all feel in belonging to it. For what is it that should make, and that so justly does make, you Edinburgh men proud? Not the beauty of your city, beautiful beyond all others; not the grandeur of its buildings, nor their historic associations; not the rich legends, nor the bewitching poetry with which you have captivated the race; but the men who in the past generations have made you what you are to-day. And it is this feature which makes your Society of such interest, ante-dating as it does all other medical societies of the English-speaking world. Looking over the list of members since 1737 I was prepared, of course, to find the names of many of the great men of the profession, but I did not expect to find a list of such extraordinary distinction. I doubt if there is any other Society in the world, except, perhaps, the Royal Society of London, with such a roll of honour. Let me just refer to some of the eighteenth century members. I skip the famous Monros, whom we all know, to express the hope that the John Monro of the second session (1738) was the father of Monro primus, and the fine old army surgeon who did so much to establish the Medical School and the Infirmary. And among the names in 1740 I find a Robert Willan, afterwards a practitioner at Hull, and the father of the father of Dermatology (the Robert Willan whose spirit I know both Allan Jamieson and Norman Walker invoke), and who was himself a member of the Society in 1777.

You have two of the great medical poets on your list—Mark Akenside, whose "Pleasures of the Imagination," once so popular,
is now almost as neglected as his scanty professional writings; but what would I not have given to have been a member of this Society in 1753, when Oliver Goldsmith sang Irish songs and told his stories! That must have been a memorable session—for hilarity, if not for work! In almost every year some memorable name occurs:—Fardyce (1756), of fever fame; Thomas Percival (1762), whose medical ethics formed the basis of the Code of Ethics of the American Medical Association; William Withering, of the same year, whose little book on the Fox-Glove is still worth studying, and whose name should be ever remembered in connection with one of the great drugs of the pharmacopoeia; Joseph Black (1776), whose fine portrait graces this hall, one of the greatest of your members, and perhaps the most distinguished chemist who has ever been a professor of medicine; Andrew Duncan, whose portrait is one of your treasures; Gilbert Blane; both the Hopes, great friends of the American students; Currie—cold-water Currie—of Liverpool, the biographer of Burns; Parry, who described the symptoms of ex-ophthalmic goitre long before Basedow or Graves; John Aiken, the biographer; Saunders of Guy's Hospital, who took Edinburgh methods of teaching to London; Fothergill—the great Fothergill—the Quaker, and the friend of the American colonists, whose memory is still precious in the profession of Philadelphia; Lettsom, remembered now by a rhyme! Beddoes, the discoverer of Sir Humphrey Davy; Mathew Baillie, the founder of British pathology, nephew of the great Hunters, who were, I believe, only extraordinary members of the Society; and Gregory of the powder. It is a wonderful list, which could be greatly extended; but I must take time to speak a word of Cullen, to whom this Society owes so much, and who had such a good influence with generations of the young men who came under his spell. The famous controversy which convulsed this Society in the seventies, started by that remarkable genius Brown, is remembered and discussed, while the theories over which the members quarrelled so hotly are now as dead as their originators. Perhaps to-night this hall may tell another story, and after we are gone Cullen may step out of his frame and wage a ghostly war of words with his old adversary!

And what a list in the nineteenth century!—Richard Bright, Marshall Hall, W. B. Carpenter, C. J. B. Williams, William Sharpay, John Hughes Bennett, Good sir, Thomas B. Peacock, John
Burdon Sanderson, Murchison, and greatest among them all, Charles Darwin, whose father, uncle and grandfather were Edinburgh men, and his father a member of the Royal Medical.

But I found on your roll names that touch one more closely than any of these. As you know, I have been for more than thirty years associated with the profession of Canada and the United States. To few men has it been given to see the work of his colleagues over a wider area—from the banks of the St. Lawrence to the ever-glades of Florida, and from the Mississippi to Nova Scotia—and interested always in the history of the profession, and in the ideals which have gradually moulded it, imagine my surprise and delight to find that many of the men held in highest honour in those two countries had been members of this Society. Let me refer to some of them. The founders of the first medical school in the United States—the University of Pennsylvania—were all Edinburgh men. John Morgan, whose celebrated Discourse led to the foundation of the Philadelphia School; Adam Kuhn; William Shippen, the father of Anatomy in America; and Caspar Wistar, still a famous name in Philadelphia. During the winter the distinguished visitor to that city is sure to hear his name in connection with the well-known Wistar Parties which he inaugurated, and which still hand on the traditions of the jovial character of a man whose motto was, "Go, seek the cheerful haunts of men." But, greatest of all, greatest name perhaps in American Medicine, is Benjamin Rush, the favourite pupil of Cullen; indeed, he has been well named the American Cullen. But you can claim a still greater American—Benjamin Franklin—whom you elected to honorary membership in 1786. During the nineteenth century I find the names of two very distinguished Philadelphians—Nathaniel Chapman (1801), the fragrance of whose memory still lingers in that city, and though dead and gone these sixty odd years, patients still write to him from different parts of the country—at least they did a few years ago; and Samuel G. Morton whose Crania Americana is one of the most important contributions to anthropology by an American anatomist.

In New York, too, the men who founded the old King's College, now Columbia, were your colleagues. Samuel Bard, a favourite pupil of Cullen and of Hope, was a devoted member of the Society, of whose proceedings, in 1762, he gives a most interesting account.
in a letter to his father. He wrote an early and accurate account of malignant sore throat (1771), and his Treatise on Obstetrics was the first work on the subject issued in America. An even more interesting New Yorker, whose memory is perpetuated in the beautiful hall of the Academy of Medicine of New York, is David Hosack, of the session of 1792-93. And a third was Samuel Latham Mitchell (1784), a physician-naturalist of the best type. These three men laid the foundation of the medical institutions of New York.

From the Southern States a large number of young men came here for their education. A few years ago I bought from Johnston's, of George Street, a collection of 120 theses of American students who had graduated between the years 1750 and 1820, and more than one-half of them were from Virginia and the Carolinas. I find on your roll the Moultries of Charleston, S.C., David Ramsay, and many others not so well known. One of your Presidents (1784) I must mention, as his grandson's name is a household word in the profession to-day, the brilliant Thomas Addis Emmet, of Dublin, who was in the 1798 Rebellion, and afterwards went to America.

One of the seven medical societies organised in the United States in the eighteenth century is the Medical and Chirurgical Faculty of the State of Maryland, the headquarters of which are in Baltimore, a Society with which I have been closely connected for the past sixteen years. I knew that a number of the founders were Edinburgh men, but I was not prepared to find that at least eight of them were graduates of this university, and four of them were members of this Society. Upton Scott, the first President of the Faculty, became a member in 1751. His descendants are prominent members of the profession in Maryland to-day, and one of his great-great-grandsons is a Rhodes scholar with me in Oxford.

1 It may be worth while to quote a sentence or two. After stating that it was organised by Cullen and Akenside in 1737, he says: "It now consists of between twenty and thirty members, who meet every Saturday evening, in a room in the Infirmary, where they dispute upon medical subjects in the following manner: Each member has about six months beforehand a set of papers given him to write a comment upon, consisting of a practical case, a question on some medical point, and an aphorism of Hippocrates. Every Saturday a set of these papers is produced and read before the Society by the author, having circulated a week before among the members, who come prepared with objections, and the author with argument to defend them."—Gross, Am. Med. Biography, p. 175.
Not all of the American students belonged to this Society, and I find that George Buchanan and David Moores, both founders of the Maryland Faculty, were Presidents of the Royal Physical Society. To two other members I must refer—John Shaw, who went to Canada with that great coloniser, whose memory we Canadians all cherish, Earl Selkirk, and who afterwards settled at Annapolis, Ind.; and John Birnie (1772), a nephew of Upton Scott's, whom I mention for the sake of his grandson, Clotworthy Birnie, a country practitioner of Maryland, whom to know makes one proud of his profession, and who could sit among you here to-night looking more of a Scot than many I see.

And all my Philadelphia friends will be glad to know that in 1838 Samuel Lewis was of your company. A Barbadian who had migrated to the United States, a learned bibliophile, he devoted many years and much money to the Library of the College of Physicians of Philadelphia, in which a handsome room and a special collection of books bear his name.

But I have not finished, and, at the risk of wearying you, I must speak of your Canadian members, as they did a great service in that country, particularly in Montreal. The founder of McGill College was of course a Scot, and the men who organised the Medical Faculty were all Edinburgh men—Stephenson, Holmes, Robertson and Caldwell (I am not quite certain about the last named), and they brought with them the best traditions of this school, which have been so well maintained by their successors that McGill has been called the Edinburgh of Canada. Stephenson and Robertson were members of the Royal Medical. I am sorry I cannot find Holmes' name, as he was facile princeps among them. Then I find many names well known in the profession of Lower and Upper Canada—the Sewells (four of them), Badgeley, Arnoldi, Crawford, Peltier, Belin, Hallowell, Mc'Nider and others. Altogether you may feel proud of the over-sea record of your members, which brings the Society into such close affiliation with the profession of the United States and of Canada.

I had intended, Mr. President, to speak on the value of the Medical Society in the education of the medical student, but I can only spare time to refer to one point. We do not lay to heart the remark of Bishop Butler, that instruction is often the least part of education, and there is much more in a medical student's life than giving him a professional training. In a
society such as this he may be taught that all-important acquire-
ment—to think and talk while he stands on his feet. The whole
question of professional economics should be taught in the schools,
and men should not be allowed to go into practice without a
thorough knowledge of the business, social, and professional
relations of their calling; but this is too large a question to
touch upon here.

And let me, in conclusion, call to remembrance the memory
of a man to whom we all owe a great debt. I hold in my hand
a volume of the MSS. Notes of the Lectures of John Rutherford,
who introduced clinical teaching into Edinburgh in 1747-48. It
was my intention to leave this precious volume here, but to my
joy I found this afternoon, in the Library of the Royal College of
Physicians, the lectures of 1749-50, and in the same handwriting,
curiously enough. This set is of the session 1748-49, and as the
introduction is the same, and there is the same description of his
method, I decided very promptly not to leave the two sets in the
same city. Possibly the first set may turn up. They are of
great value as a record of the initiation of clinical teaching in the
English-speaking schools; and what has been called the Edinburgh
method dates from the introduction by Rutherford of practical
classes in the Royal Infirmary. But we owe the method to the
Dutch, who are our masters in this as in nearly all the advances
in modern civilisation. Rutherford and his colleagues, Plimmer,
Sinclair and Innes, were pupils of Boerhaave, the Dutch Hippo-
crates, under whom the objective method of Sydenham reached
its highest development, and out of which, when united to the
"anatomical thinking" of Morgagni, and the new methods of
physical diagnosis, modern clinical medicine has evolved.

It has been a special privilege to be with you this evening,
and to have been assigned the toast of the Royal Medical Society,
from the members of which the English-speaking profession on
both sides of the Atlantic has derived its most enduring inspira-
tion, and I ask you to drink to its continued prosperity.
ON THE LIBRARY OF A MEDICAL SCHOOL.

By William Osler, M. D.
ON THE LIBRARY OF A MEDICAL SCHOOL.  

By William Osler, M.D.

One day last spring a London bookseller called and said he had a library of seventeenth and eighteenth century medical books for sale, which had been gathered by the physicians connected with the Warrington Dispensary. Looking over the catalogue I saw at once that it was a collection of value, and knowing that it would supplement very nicely the special libraries which have gradually grown up in connection with the Johns Hopkins Medical School, I wrote to Mr. W. A. Marburg and he authorized me to purchase it and to have it put in good order, and this has been done, and to complete his generous gift, Mr. Marburg has furnished bookcases as well. Dr. Welch will speak of some of the special works. I may mention in passing that the library is very rich in English medical pamphlets of the seventeenth and eighteenth centuries, and contains a large number of the works of classical medical authors which we had not in the library.

A word or two on Warrington and the men who collected these books: This old town on the banks of the Mersey, partly in Chester, partly in Lancashire, had in the middle and latter part of the eighteenth century a notable group of scientific and professional men. The Aiken family made the place celebrated as a literary center, as it was largely through the Rev. John Aiken that the Warrington Academy became so famous. His son John became well known through his "Biographical Memoirs of Medicine in Great Britain," and the large work on "General Biography." A sister of

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1 Remarks made on the occasion of the presentation of the Marburg collection of books to the Johns Hopkins Medical School, January 2, 1907.
the elder Aiken was the distinguished authoress, Mrs. Barbauld, and Lucy Aiken, a daughter of Dr. John, became a well-known figure in English literature. But by far the most important of the scientific men who lived here in the eighteenth century was Joseph Priestley, who was tutored in "classics and polite literature" at the academy for six years, from 1761. He must have had a very stimulating effect on his colleagues. A very notable character who also has a strong interest for us on this side of the water is Thomas Percival, who was born at Warrington and practiced there before going to Manchester. Upon his work, "Medical Ethics, 1803," was founded the code of ethics of the American Medical Association. I see it stated that a brother of this Percival was also a well-known physician at Warrington, and at his death left a very large library; some of the books may possibly be those before us this evening. James Kendrick was a physician and naturalist of the same type. It was by the exertions of these men and their colleagues that this library was formed. The influence of the Warrington Academy, the educational college of the Unitarians of England, made the town a literary and scientific center, and the medical profession must have benefited largely from the intellectual environment of the place. So prominent indeed did it become that a Press was organized, and in looking over Miss Nutting's interesting collection of books on "Nursing," to which I shall refer later, I noticed that from it the works of the celebrated philanthropist, John Howard, were issued. Altogether, the collection has an affiliation with a remarkable group of men, and its value is not a little enhanced to know that it has been used by such men as Priestley, and John Aiken, and Thomas Percival.

The occasion offers an opportunity to make a few remarks upon the future of the libraries connected with this school. Books are the tools of the mind, and in a community of progressive scholars the literature of the world in the different departments of knowledge must be represented. With the existing arrangements we have gradually built up two libraries, one connected with the hospital and the other with the university. In the former are to be found the modern
works and journals relating to medicine, surgery, obstetrics, and the various specialties. Under Dr. Hurd's fostering care this side of the library has grown rapidly, and we have had several valuable donations from the libraries of the late Dr. Donaldson and the late Dr. Chatard. Files of all the more important medical journals are there to be found, and we can all testify to the very stimulating influence which this library had had upon the hospital staff and upon the senior medical students.

After the medical school had opened and the laboratories of anatomy, physiology and pharmacology been erected, the University began the collection which is in this building and which represents the modern works and journals in those scientific subjects upon which medicine is based. There are now very complete files of the scientific journals of anatomy, embryology, physiology, pharmacology, and physiological chemistry. While, in some ways, the ideal plan is to have a special library of each subject in each laboratory, the buildings here are so close together that it was thought best to concentrate all of the collections in this building.

Now it is along these two lines that a library of a medical school should progress, but there are one or two other sides of the question which may be considered. In a large city with another active medical library supported by the profession, the two should work in harmony, as great economies could be effected, particularly in the purchase of the more expensive works and journals. I am glad to know that the library of the Medical and Chirurgical Society is prepared to co-operate with the other medical libraries in this city in some such plan. It is not worth while for the library of the medical school to deal extensively with local literature or with the transactions of the State societies, or to attempt to keep files of all the smaller American journals. There are two other directions in which the library of a medical school should grow, and they are well represented by the collections presented to-night. When a man devotes his life to some particular branch of study and accumulates, year by year, a more or less complete literature, it is very sad after his death to have such a library come under the ham-
mer—almost the inevitable fate. Fortunately, such libraries are very often offered for sale *en bloc*, and this was the case with the large collection of works on teratology and embryology formed by the late Professor Ahlfeld, of Germany. Through the liberality of Mr. W. F. Jencks this very valuable library has been secured for us and will be presented to-night by Dr. Williams. These special groups of books are of the greatest value to the student. It is interesting to know that in connection with the training school of the hospital Miss Nutting has gradually formed a library of all the works relating to nursing and to the care of the sick in peace and war, and I may remind you that we are already the fortunate possessors of another remarkable collection, that of the late Dr. Fisher, who gathered together the set of portraits which was presented to the hospital a few years ago by Dr. Kelly.

This Warrington collection represents a fourth side of the library work. I think you will all agree with me that the interest which has been taken here in the history of medicine and in the biography of the great men of our profession has had a very stimulating influence on the younger men, in giving to them that historical outlook so important in scientific research. The library of a great medical school should contain the original works of all the great masters of medicine. No book should be added to a library simply on account of its age. As in modern literature so in that of the sixteenth, seventeenth, and eighteenth centuries, there is an enormous quantity of trash which is hardly worth shelf room. I would have *all* of the original works of *all* of the great men; and one special value of this Marburg gift is that it is so rich in original editions of many of our masters. For example, I would have in such a library a carefully selected group of the works of Hippocrates, not everything, of course, but the standard editions, such as the Aldine folio, and the editions Frobenius and the more important translations; the editio princeps of Celsus, 1479; the more important of the works of Galen, including the fine Aldine edition, 1525; good editions of Dioscorides, Aretaeus, and of Pliny, and of the other great medical writers of the Greco-Roman school. On the same
principle should be collected the chief works of the Arabian physicians, and a shelf or two should be devoted to the school of Salernum. The great medical Humanists should be well represented—Linacre, Caius, and others. Every scrap of the writing of such a man as Vesalius should be collected. A good beginning has been made with the 1543 edition of the "Fabrica," but of such a man all the editions of all his works should be here. The same may be said of such great anatomists as Fabricius, Malpighi, Eustachius, Sylvius, and many others of the sixteenth century. The original works of the great physiologists should be sought for. Every scrap of the writings of Harvey (and they are not numerous) and every edition should be here. In practical illustration of my remarks I beg to present to the Marburg collection an original edition of the "De Motu Cordis," 1628, perhaps the greatest single contribution to medicine ever made, and which did as much for physiology as the "Fabrica" of Vesalius did for anatomy. The "De Motu Cordis" has become an excessively rare book. I had been on the outlook for a copy for nearly ten years. It had not appeared in an auction catalogue since 1895. Then in August of last year a very much cut, stained and unbound copy was offered to me at a very high figure. It had come from the library of Dr. Pettigrew, the author of a work on "Medical Biography." I had been waiting a long time for a copy, but this looked so shabby and dirty that I decided not to take it. Some months later the booksellers sent the copy back nicely cleansed and beautifully bound, and this time I succumbed. Within forty-eight hours the same dealers sent me another copy from the library of the late Professor Milne Edwards, of Paris, uncut and very nicely bound, which they offered at the same price. Naturally, I took the larger copy and the other one went to a friend in this country. The copy I here present to the library has been a little too energetically cleansed, so that the leaves are very tender and in places have had to be repaired. It came from the library of a physician in London and the bibliographical data are found attached.

I would have the complete works of the Hunters, every fragment available of John Hunter's; everything of Haller—
and that means a great deal—of Majendie, and a complete collection of the monographs of great modern physiologists, such as Claude Bernard. The original works of the great clinicians, of Boerhaave, Morgagni, Bichat, Laennec, Louis, Corvisart, Bright, and Addison should be on our shelves; and lastly the great works relating to the history of medicine and to medical bibliography should be collected. Books in the special historical and bibliographical department of the library could very well be added to this Warrington collection, in which way the university could express its appreciation and gratitude for the very generous gift received from Mr. Marburg.

And one word in conclusion—when the plans for the medical school were under discussion, I drew in outline what I should have liked to see on this plot of land. Very much idealized it would have taken many millions for its realization. Surrounding the entire square ran beautiful stone cloisters (ornamented with busts and statues of the great men of the profession), and uniting the four chief buildings which stood in the middle of the sides of the square. On the Monument Street front was a beautiful structure in stone devoted to the library and museum. This part of my plan could yet be realized. As the museum collections grow, and as year by year the books increase in number such a building will become a necessity, and in it these special libraries will find their appropriate home.
ON TELANGIECTASIS CIRCUMSCRIPTA UNIVERSALIS.

By William Osler, M.D.
ON TELANGIECTASIS CIRCUMSCRIPTA UNIVERSALIS.

By WILLIAM OSLER, M. D.

For many years I have been interested in the nævi and small telangiectic spots which one sees so frequently in the routine examination of patients. Their increase as age advances, their peculiar distribution, their temporary character in young persons, the association with cirrhosis of the liver, the possible association with internal carcinoma, the occasional eruptive-like outbreak in jaundice, the remarkable hereditary form associated with epistaxis (of which I have reported three cases)\(^1\) the presence of the spider-nævi in scleroderma, and their occurrence in the scar of X-ray burns—these are points upon which I have dwelt over and over again in the routine work of the wards. On January 21, 1906, while I was taking one of Dr. Barker's ward classes, I found a patient whose case is here described, and I saw immediately that it was a form of generalized telangiectasis which I had never met with before. The case belongs to an excessively rare form of the disease of which only some fifteen or twenty cases are on record, and Dr. Barker has very kindly allowed me to report it. The history may be given in full:

W. J. H., age 39.—Patient complains of pain in the right side of abdomen.

F. H.—Family history is negative. The parents are living and well. He has no brothers nor sisters. His parents deny emphatically any joint or skin trouble in the family, but the mother had urticaria when young.

P. H.—Patient has not had any infectious disease. He has not had tonsillitis. He had attacks of "grippe" for several con-

\(^1\) Johns Hopkins Hospital Bulletin, 1901, Vol. XII, 333.
The first, during an epidemic in Paris in 1889, was severe. In 1893-94 he had "pleurisy" though from his description one would suspect it to be lumbago. The pain was in the lumbar region, chiefly in the right side, very severe, relieved by hot packs and turpentine, in many ways resembling his present pain except that the former attack has been entirely in the back. He has believed his back to be weak and has taken gymnastic exercises. He has always been of neurotic temperament, and after 3½ years of hard work with much privation as an artist in Paris he broke down in 1893 with "nervous prostration," and for six years could work only intermittently. He thinks he has never entirely recovered.

Head.—He has had attacks of giddiness about once a week for past three years. He has considerable astigmatism which causes severe headaches relieved by glasses. Has never had any flashes of light; has never fallen; never has vertigo; no ear trouble.

Respiratory system.—No chronic cough, bronchitis, or haemoptysis.

Cardio-vascular.—During the past three months he has been rather short of breath after meals and on running up stairs. No pain around the heart.

Renal.—Not any oedema of ankles or of face. No blood in urine before present illness. The urine has been examined several times in the past few years and always found normal. No increase in frequency.

Gastro-intestinal.—No symptoms on the part of these organs; bowels always regular.

Habits.—Until six years ago he was an excessive smoker; since then moderate. Formerly a moderate drinker; now abstemious. Denies all venereal trouble.

Skin.—The skin condition has evidently not attracted much attention. The patient states he had noticed the purplish motting only for the past ten years. His mother is sure that his skin was normal when a baby and during youth and she has noticed the present condition only during the past two years. The patient says the motting has become more intense during this time. At no time has it entirely disappeared, although more intensely colored during cold weather than in summer. During the summer of 1889 he had an attack of hives, and he gives an indefinite history of several attacks since. In November, 1905, he began to have epistaxis which has recently recurred without apparent cause and lasting about five minutes. During his attack of "nervous prostration" he was troubled with hemorrhoids and was operated on. He has never noticed any tendency to prolonged bleeding from slight cuts. Has never had
hämoptysis. He denies absolutely any attacks of joint pains, colic, vomiting, or diarrhoea.

During the past month the patient’s feet have bothered him by intense itching, so severe as to cause him to rise at night and apply a lotion. During the past two weeks patient has undergone a great deal of mental and physical exhaustion in connection with an art exhibition.

P. I. —Came on suddenly at six o’clock in the morning of January 20 (yesterday), with the passage of about a pint of bloody urine (dark red), followed by pains in the right abdomen “just below the last rib on the right side.” Gradually the pain became extreme, and in ten minutes was at its height, causing the patient to double up and roll about in agony. The pain remained localized and did not radiate to the thighs or shoulder, nor was it paroxysmal. The pain lasted about twenty minutes and then gradually ceased, the patient breaking into a free perspiration. In half an hour after the onset of the pain he felt all right again, arose from bed and went about his days work (mounting and selling pictures). Last night he retired at 11.30. During the day patient passed his water three times and while it appeared dark, he did not notice that it contained blood. Last night the patient slept fairly well and did not get up to urinate. About six o’clock this morning (January 21), patient had a peculiar sensation in right abdomen, and a “presentiment of another attack.” He arose from bed and passed another pint of brick-red urine, during which passage there was no pain, but immediately afterward pain came on gradually and in five minutes was extreme. A doctor was summoned who diagnosed the case appendicitis. The pain was agonizing and this time lasted five hours (until morphine was given sufficient to relieve it), and was accompanied by fever. The patient does not remember that he was short of breath during the attacks. In the first attack he had considerable nausea but was unable to vomit. In the second attack he vomited freely, especially after taking morphia. He has had no diarrhoea with the attacks. His appetite is good and he says it always has been.

Since the onset of his trouble the patient has noticed a prickly sensation in the end of his penis on urination.

Patient’s mother says that the urine passed in the first attack contained blood definitely, but she is quite sure there was no blood in the urine passed before the attack on the second morning.


Thorax.—Is symmetrical, except that right side is slightly fuller than left, and sternum deviates slightly to left. There is
a well-marked lateral curve to right in mid-dorsal region. Movements of chest are equal. Lungs clear in front.

Heart.—Apex impulse visible and palpable in fifth interspace about in mammillary line, 9.3 cm. from median line and dulness extends 3.7 cm. to right. Impulse is of moderate intensity. First sound at apex slightly prolonged, suggesting a systolic murmur. Second sound clear. Sounds are clear elsewhere. Second left or pulmonic, a little louder than second right. During examination a number of patches of urticaria have appeared. There is fairly well-marked dermatographia and where he has been blue-penciled there is urticaria, which is appearing also as wheals bordered by a wide blush over places marked for dermatographia. Abdomen is natural. Liver is not palpable or enlarged. Spleen is readily palpable, falling, with patient on right side, 3-4 cm. below costal margin. The tenderness previously present has now disappeared.

R. B. C. .......................... 5,320,000
W. B. C. .......................... 11,900
Hb. .................................... 106 (corrected).
Coagulation time = 4 mins. (slide method).

Fresh blood cells.—Appear of good color and uniform in size and shape. Not much tendency to rouleaux formation nor crenation. Leucocytes rather numerous but no marked leucocytosis.

On January 24 I made the following note: The skin presents a very remarkable appearance. On the face there are a few spots like acne rosacea. The skin of the neck is clear. Over the trunk and the extremities are numerous dark red spots looking exactly like a fresh purpura. Their distribution is very well shown in the accompanying photographs. They are very thickly set over the chest and back and on the flexor surfaces of the forearms and inner aspects of the arms (Figs. 2 and 3). The spots vary in size from two to six millimeters in diameter, and often coalesce to form large blotches. While of a dark purplish tint, as a rule, they can be changed by rubbing to a vivid red. Everywhere on palpation the spots disappear completely, leaving a slight brownish stain. They are not raised and the color is uniform. There are no individual blood vessels seen. It is evidently a capillary dilatation. It is remarkable the difference in appearance after friction of the spots on the arm. They become of a bright red color, return instantly after pressure, while the other spots are of a dark livid hue and the blood returns very slowly. The condition of the hands
and feet is very remarkable. As seen in Fig. 1, the fingers are cyanotic and look like the picture of Reynaud's disease. The soles and margins of the feet and the toes have the same deep purple color. Factitious urticaria is readily produced, as is well shown in Fig. 4. The patient remained in hospital until March 9. He was on a modified Weir Mitchell treatment and did remarkably well. Dr. Bordley reported that he had a slight choroiditis in the right eye. During his stay in the hospital the patient had several severe attacks of abdominal pain, which was relieved by acupuncture. I saw the patient again an January 2, 1907. The skin was in practically the same condition. Though still somewhat nervous, he had kept pretty well and was able to attend to his work. The best account I have found of this condition is in La Practique Dermatologique, T. IV, by Brocq, under the title of Primitive Generalized Telangiectasis. Very few of the reported cases have had anything like the same extensive distribution as in the one here described. In one reported by Vidal he calls it Télangiectasie accidentale symétrique et généralisée—a female, aged 31, nervous and hysterical; at the age of fourteen noticed the red spots appearing under aspects of the forearms. They extended gradually and appeared symmetrically on the arms, chest, neck, fingers, the backs of the hands, and the lumbar and dorsal regions. Before they came out she was very much troubled with a chronic urticaria, and she had a very marked hyperæsthesia of the skin. Levi has reported two cases, the second one, a woman, aged 33, had only 35 spots in all, which had appeared in different parts of the body between 1897 and 1900. In his first case, a woman aged 70, the spots were much more extensive, and with a distribution very much as shown in the photographs here given, but there was not the extreme involvement of the feet and hands.

One or two points about this case require comment. From the statement of the mother there can be little question that

4 Presse Médicale, 1896.
this is an acquired, not congenital form. Everywhere it is the capillaries, not the small venules that are involved. The appearance of the back and of the arms is not unlike that seen in the most extreme grade of vasomotor mottling. The patient, Juliet D., medical number, 16254, who was in the ward G in October, 1903, had an appearance of the back and feet very similar to this patient. She was also extremely neurotic, but under treatment the mottling entirely disappeared. This is a permanent dilatation of the capillaries of localized areas. The condition of the hands and feet suggests the local asphyxia of Reynaud's disease. The skin of the soles of the feet and the toes was quite purple. The color could be changed to a vivid red by friction. In the interval of a year, which elapsed after I first saw him, no change had occurred, so that it is evidently a state of permanent ectasia of the blood vessels of the skin. Dermatographia, common enough in conditions of vasomotor instability, is seen in a marked degree in many cases of neurasthenia. Two other symptoms are of special interest in the case. The recurring attacks of colic, for which no cause could be found, may have been associated with a gastro-intestinal urticaria, that is a localized area of infiltration of the gastro-intestinal wall, such as has been shown to be responsible for the colic in the so-called Hennoch's purpura. The haematuria may be a form of so-called renal epistaxis, such as is met with sometimes in Reynaud's disease. Bleeding is a common event in the remarkable generalized telangiectasis of the hereditary form, and some of the cases have been described as haemophilia. Since the report of the cases in the Bulletin, already referred to, I have found another family. The bleeding is usually from the nose, but it may be from the lips or mouth, only rarely from the spots on the skin.
A Clinical Lecture
ON
ABDOMINAL TUMOURS ASSOCIATED
WITH DISEASE OF THE TESTICLE

Delivered at the Radcliffe Infirmary, Oxford, on March 20th 1907

BY
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Reprinted from THE LANCET May 25, 1907
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Gentlemen,—Not infrequently the diagnosis of an obscure affection of the abdomen is determined by an examination of the testicles. More than once in my experience the nature of a peritonitis or of an abdominal tumour has been cleared up by finding a tuberculosis orchitis; or in syphilis gummata may occur at the same time in the liver and in the testicles. But it is more particularly in malignant disease of these organs that abdominal features are met with, and the case before you illustrates in a singularly complete manner many of the peculiarities of this association.

This well-built fellow, aged 22 years, with a suspicious pallor of the face, was sent by Mr. R. R. Hatherell from Kingston Bagpuze and Mr. Parker has kindly sent him for my clinique. When seven years of age he fell from a tree and injured the left testis which was transfixed by a small spike. Ever since it has been a little enlarged, but it gave him no trouble until about six months ago, when it began to grow and to be a little painful. A few weeks ago he noticed a swelling of the abdomen. He has lost about 8 pounds in weight. The left testicle is of about the size of a small orange, round, and firm; the epididymis is enlarged and there is a gland of the size of a filbert just above it, which I thought at first was the cord. There is no sign of the old injury. In
both inguinal grooves the lymph glands are enlarged and hard, forming visible tumours. The abdomen presents a very remarkable appearance (as illustrated in the accompanying illustrations,1 Figs. 1 and 2). A prominent mass occupies the left upper quadrant, lifting the costal border, and causes bulging of the eighth, ninth, and tenth ribs. Below it reaches to the level of the navel and to the right a little beyond the linea alba. It appears to descend slightly on

Fig. 1.

View of abdominal tumour from the front showing the high position.

deep inspiration, and on close inspection there is a shock-like pulsation in the whole mass and in the splenic region. On palpation the mass is very solid and immovable, emerges directly beneath the costal border, and extends to the level of the navel, but below the limits cannot be accurately made

1 These photographs were taken by Dr. R. H. Sankey on April 9th. The tumour has grown very much.
out. To the right it reaches to the middle line but the epigastrium itself is not occupied nor does the liver appear to be enlarged. Passing deeply in the flank it cannot be grasped between the hands and moved up and down like a renal or splenic tumour. It has rounded outlines without nodules and is painless on pressure, firm, and has a feeble pulsation, not expansile, but just such as one feels in deep-seated abdominal growths. The throbbing of the abdominal

**FIG. 2.**

View of abdominal tumour from the side.

aorta is felt just above the navel. There are enlarged glands both above and below Poupart's ligament on both sides. There is an enlarged gland just above the left clavicle.

Two very common events in connexion with malignant disease of the testicle are illustrated by this case—the influence of trauma (which in some statistics has been as high as 50 per cent. of the cases) and the very rapid generalisation. Following an injury the tumour may appear in a few months, or, as
in this patient, 15 or more years may elapse. It is well to bear in mind that the course may resemble an acute orchitis. Some years ago I saw with Dr. McGill of Catonsville, a young man, aged 19 years, who had bruised one testis on his bicycle. This was followed by swelling, gradual enlargement, and the tumour persisting the organ was removed. It contained blood and much grumous matter thought to be pus. About a year later he began to fail in health and when I saw him he presented two large tumours in the upper abdominal region, evidently connected with the liver. There was fluctuation and the masses felt like sacs of pus. An exploratory operation showed the condition to be a rapidly growing soft sarcoma of the liver.

The generalisation is, in the majority of cases, through the lymphatics, and, as in this case, may take place very early. I have not sufficient experience with tumours of the testicle to say on simple examination just what variety this is, though from its firmness in places and its elastic tendency in others it is quite possible that it belongs to the remarkable group of embryomata or teratomas. I wish particularly to bring before you the characters of the abdominal tumour in malignant disease of the testicle. There are two groups of cases: (1) the tumour is a secondary involvement of the lymph glands, as in the case before you; and in the other (2) the tumour is primary involvement of the retained testis in a monorchid or a cryptorchid. To understand the relation of the secondary tumours you must bear in mind that the lymphatics of the testicles discharge very high up into the aortic lumbar glands —on the left side into three glands to the left of the aorta just below the renal artery, on the right side into from three to five glands to the right of the vena cava and between it and the aorta. The secondary tumour is, therefore, above the level of the navel, and usually begins in the upper quadrant of the abdomen on the side of the affected organ. This explains the position of the tumour in the present case. It has all the characters of a deep-seated mass which has sprung from the retro-peritoneal lymphatic glands. The solidity of the growth, its depth, the immobility, the absence of an outline conforming to the well-known shape of a renal or a splenic tumour, and
the impossibility of grasping it bimanually, which can be done in the majority of all new growths of the kidney, and the character of the throbbing impulse which is so marked in these deep-seated lymphatic tumours in the neighbourhood of the aorta—all these points favour the view that we have to deal with a large secondary mass involving the lymph glands connected with the left testicle. Here, too, the first glandular barrier has been broken through and the germs have reached the cervical lymphatic gland on the left side. An unusual point in this patient is the involvement of the inguinal glands, which, as a rule, escape, unless the scrotum itself is attacked. Later in the disease the lungs may be involved, the heart, the liver, and other organs. I have already mentioned a case in which there was extensive secondary disease of the liver. It is not always easy to determine the precise nature of an abdominal growth which has developed many years after removal of a testicle. The patient may have gummous orchitis and syphilis of the liver or there may be tuberculosis of one testicle, and years later tuberculosis of the liver. This rare association happened in the following case:—

On Oct. 14th, 1903, Mr. L. was sent by Dr. Schofield of Charlestown, West Virginia. Ten years previously he had had the right testicle removed by Hunter McGuire for tuberculosis, but the patient himself said that the nature was doubtful, and a subsequent letter from Stuart McGuire states that the tumour was a sarcoma. The patient had had stomach trouble for a couple of months and a week before consulting me had noticed a lump in the abdomen. He was positive that he had never had any syphilis. He had had good health and had not lost in weight. I dictated the following note: “Healthy-looking fellow; fairly good colour. Tongue is a little furred. Hands are a little pale. Pulse is regular. He weighs 120 pounds. Abdomen is prominent in epigastric region and a mass descends with inspiration, having the unusually great vertical excursion of at least five inches, reaching to a little above the navel. Transverse extent of the prominence is fully three inches. Marked communicated
pulsation over whole epigastric region. Right infracostal
groove obliterated. Navel is normal. Superficial glands are
not enlarged. On palpation the mass corresponds to a firm,
hard, ridge-like tumour, very freely moveable, rounded, without
a definite edge, but fingers can be got above and below. It is
difficult to say whether it is attached to the liver or not. At
the outer edge of the right rectus it feels as though it were,
and here the edge of the liver is distinctly palpable, fully two
fingers-breadth below the costal border. Edge of spleen is
easily and distinctly palpable. The mass is singularly painless
on palpation. There is resonance over it. Percussion gives
upper border of liver at the seventh rib in nipple line.
Glands are a little shotty. After inflation of stomach the mass
is not nearly so prominent. It does not change specially in
position, remains the same, rather less than more resonant.
The shadow of its descent is not so definite. The edge is a
little more definite and prominent just by the rectus border.”
My opinion was that he had a sarcoma of the liver following
the tumour of the testicle. I urged him to have an exploratory
operation. This was done by Ransohoff of Cincinnati, who
has reported the case in the Medical News of April 16th, 1904.
A tumour was found embedded in the left lobe of the liver.
The omentum was adherent to the free border. “What was
felt as the tumour mass was now found to be the left lobe of
the liver hardened and nodular.” The tumour was removed
with the thermocautery. The patient died on the sixth day
after operation from severe vomiting of blood. Dr. Hiller
reports that the tumours had the histological features of tuber-
culosis, though tubercle bacilli could not be demonstrated.

As is well known the testicle retained in the inguinal canal
is very often the seat of new growth. In the following case
a large abdominal tumour followed removal of a sarcomatous
right testicle:—

The patient was a man, aged 36 years (surgical numbers
5936 and 7448). He was admitted to Dr. Halsted’s clinique
on Oct. 19th, 1896, complaining of a swelling in the right
groin. His family and personal history was unimportant. The right testicle had been undescended but it had been palpable in the right groin. It never gave him any trouble until 18 months ago, when he first noticed that it was enlarged and extended higher up than before. It continued gradually to increase in size but with only an occasional attack of pain on

Fig. 3.

Tumour of retro-peritoneal lymph glands secondary to sarcoma of right testis.

standing or exertion until three weeks ago, when pain was more severe and extended down the leg. The pain was stabbing in character and accompanied by a sensation of itching and tingling. The bowels were constipated; for three weeks he had had frequency of micturition but the urine was scanty. There was no loss in weight and the appetite was good. Examination showed a somewhat sallow complexion; the
mucous membranes were of fair colour, the pulse was normal, and the heart and lungs were normal. With regard to the abdomen, the spleen was not palpable. In the right hypochondrium there was some resistance which was too superficial for the liver. The scrotum contained only the left testical, which seemed normal; the right testicle was absent. Rectal examination revealed a firm prostate. As to the lymphatic glands, in the left axilla was a small nodule of the size of a marble. The submaxillary glands on the left side were somewhat harder than on the right. In the right inguinal region above Poupart's ligament was felt a tumour mass, ovoid in shape, of about the size of an orange, 13 by 11 centimetres, extending from within five centimetres of the anterior superior spine of the ilium to the scrotum. The mass lay just beneath the skin, was freely moveable, and was not tender or sensitive on manipulation. The tumour was very hard, tense, and seemed to fluctuate slightly. The tumour seemed to be just beneath the external ring, and when one invaginated the scrotum the resistance of the tumour above could be readily felt. The patient said that the sensation in the mass was the same as in the other testicle. On Oct. 23rd, 1896, Dr. Bloodgood removed the tumour. It lay beneath the skin and had the usual coverings of a hernia. There was no evidence of infiltration of the tissues outside of the capsule. The tumour proved to be a myxosarcoma. The patient made a uneventful recovery and was discharged on Nov. 15th, 1896. He was readmitted on Feb. 21st, 1898, about 14 months after operation, with recurrence in the retroperitoneal glands. For about six weeks he had been having pains in the back, with swelling of the abdomen, on which account he drank to excess. The bowels had been very constipated. Two days before readmission he had some burning pain and haematuria. On Nov. 22nd I made the following note: "Skin decidedly icteroid; scar on right side extending parallel to Poupart's ligament; little fulness of abdomen in right half, chiefly in the upper portion. The left infracostal groove more distinct than right; walls soft, no resistance on palpation. Occupying the central upper portion of the abdomen is a solid, irregular
mass; to the right it extends far over into the flank, below to the level of the spine of the ilium. To the left it does not extend so far, but in the epigastric and upper umbilical regions it extends as far as nipple line. There is bulging above the navel. It can be felt most pronouncedly midway between the navel and ensiform cartilage. Outline between mass and liver not clearly defined. It is very resistant and immobile and does not descend with inspiration or posture. On bimanual, the mass seems an unusually deeply placed tumour. Everywhere gurgling in the intestines can be felt, but the edge of the liver is not palpable. The right rectus is more rigid than left. The upper level of liver dulness is on a level with the upper margin of sixth rib and extends to costal border.” The patient was discharged unimproved on March 28, 1898.

In the second group, not nearly so common, the tumour originates in the retained testes of a monorchid or a cryptorchid. The following cases have come under my observation; two of them in the surgical clinique of the Johns Hopkins Hospital my colleague Halstead allowed me to demonstrate to my clinical class:—

**Case 1. Cryptorchismus; abdominal tumour; diagnosis of sarcoma of retained testicle; removal; rapid recurrence.**—A man, aged 29 years, Surgical No. 2900, was seen in Dr. Halstead’s ward with Dr. Bloodgood on March 21st, 1894. The patient was a resident of Maryland and had been at several cliniques seeking advice as to the nature of his trouble. He was a medium-sized, slightly-built man, somewhat effeminate looking in the face, with a fair-sized moustache but with very little hair on the cheeks. He had been pretty well up to six or eight weeks ago, when he noticed for the first time a lump in his abdomen, since which time there had been gradual enlargement and he had lost in strength and weight. He looked pale; there was no fever; the pulse was good. The abdomen was uniformly distended, having the appearance of an ordinary ascites; the superficial veins were not enlarged. On palpation it was moderately tense and fluctuation was
readily obtained. In the middle line on deep palpation a firm, hard body was touched which was felt to occupy the right lower quadrant of the umbilical region and the greater portion of the hypogastric, extending, however, much more to the right than to the left side. The surface was irregular and there was a very marked prominence to the right. It could be moved a little from side to side, but there was too much fluid in the abdomen to make any satisfactory bimanual palpation. It was hard and resistant and in the process of dipping for it with the tips of the fingers it evidently yielded and could be depressed from one side to the other. The scrotum was empty but somewhat distended; the inguinal canals were open and the ascitic fluid passed directly into the sac of the scrotum. Examination by the rectum revealed the

FIG. 4.

Abdominal tumour formed by retained testicle.
presence of a hard indurated mass on the right side. Considering that the patient was a cryptorchid and the known proneness of the retained testicle to new growth, the diagnosis of sarcoma of one of the intra-abdominal testicles was made. On the 24th Dr. Halsted operated; he removed the ascitic fluid and found a tumour formed by the enormously enlarged and sarcomatous right testicle. The organ had retained its shape; a groove separated the body from the greatly enlarged epididymis. The tumour was greyish-white in colour, firm and hard in some places, soft and partially cystic in others. A portion of growth on the pelvic floor could not be removed. The patient left the hospital on April 14th very much improved in his general health, but returned on May 12th with signs of recurrence.

Case 2. Monorchid; tumour in the right side of abdomen; ascites.—The patient was a married man, aged 46 years. Surgical number 2992. He was admitted on April 17th, 1894. His family history was negative. His personal history was negative, except for alcohol to excess until 41 years of age. The present illness began about eight months ago with a sharp sudden pain in the left side of the abdomen of very excruciating character, which lasted about five minutes. This was followed by a soreness for several days in the left ilio-costal space. About three weeks after this attack he noticed a hard tumour in the left side of the abdomen which was painful on pressure. For some months prior to September, 1893, the patient had noticed increasing difficulty in moving his bowels, and this had progressively increased, and now only strong purges or enemata were successful. About December, 1893, he had pain around the neck of the bladder on micturition; now it occurred only occasionally. The tumour had not increased perceptibly in size. He said he had become paler and had probably lost weight. There had never been any blood in the urine or stools. The patient was an emaciated, cachectic man, with pale mucous membranes; the radial pulse was small and weak, with the vessel wall decidedly sclerosed. There was no
general lymphatic enlargement. The abdomen was distended and prominent, particularly in its lower half, where two tumour masses were seen, one in the right inguinal region and the other more to the left of the navel. The abdomen was soft in its upper half, but below and to the right of the navel was felt a large, hard tumour with irregular margins, painful on deep pressure. The small nodule in the diagram corresponds to the epididymis and was more painful than the rest of the mass. The growth was not moveable nor was it adherent to the skin. There was much fluid in the abdomen, which had been increasing since admission. The difficulty in moving the bowels had also increased. The inguinal glands were slightly enlarged and tender. The left testicle was absent and could not be felt, while the right was normal. The inguinal canal on the left side was open, though the internal ring was barely felt. Blood: 4,200,000 red cells, 6500 white. Since admission the fluid had increased in the abdomen and the patient had become weaker. The urine was clear on examination. The patient was discharged unimproved on May 7th as Dr. Halsted refused to operate.

**Case 3. Monorchid: tumour in the right lower quadrant of the abdomen; operation.—** On April 25th, 1900, I saw with Dr. Henry Jackson and Dr. Cabot in Boston a robust healthy man, aged 45 years. He had had for years an undescended testis on the right side, which had once been just at the inner ring but subsequently had receded. For three or four months he had had irregular pains in the abdomen, thought to be due to gas, chiefly in the right iliac fossa. About six weeks previously Dr. Jackson noticed the presence of a lump in this locality and three weeks previously Dr. Cabot operated and found a large, solid tumour corresponding to the testis but passing deeply and surrounding the vessels in such a way as to make it inoperable. The patient was a healthy-looking man, though he had lost a good deal in weight. He did not look at all cachectic. The hypogastric region was a little prominent and there was a bulging just below and to the right of the navel. On palpation the right inferior quadrant of the abdomen was filled with a
solid mass. Above it extended beyond the level of the navel and to the left about the middle line. It was fixed, slightly irregular on the surface, not painful. The prominence noticed was evidently the colon pushed up to the top of the mass. The fingers placed above Poupart's ligament came directly upon the tumour. There was very little pain. He had begun to have a little uneasiness down the course of the anterior crural nerve. He gradually became cachectic as the tumour increased and died about six months after I saw him.

In this group the tumour is in the lower abdomen, usually on one side, and, as in Cases 1 and 2, it may have the outlines of an enlarged testis with the epididymis attached. It is interesting to note that in two of the cases there was ascites, a not uncommon event in connexion with the solid abdominal tumours, particularly of the ovary. The general contour of the abdomen in Case 1 suggested simple ascites and the tumour was only discovered on deep palpation. The cases are not very common. Chevassu in his recent study has collected 128 cases of tumour of the testicle from recent literature, and of these ten were inguinal and five abdominal. There is not much difficulty in the diagnosis, as very often the tumour has the shape of the testicle with its epididymis. In the cases of Abel and of Marion the tumour occurred in hermaphrodites with the external genitalia of women. The nature of the growth was of course not suspected until operation when the uterus and ovaries were absent and sarcomatous change was found in one of the abdominal testicles. The question of prompt surgical treatment is important, as involvement of the glands may occur very early as in this case. The abdominal tumour has been removed in many instances, but

2 I have reported two cases of solid tumours of the ovary in which the ascites recurred for many months, requiring repeated tapping, and in both patients the diagnosis of the solid tumour was only made on examination after tapping. Both patients recovered after the removal of the affected ovary and both are alive to-day, one 20 and the other seven years after the operation,


4 Virchow's Archiv, Band cxxvi., p. 420.

5 Annales des Maladies des Organes Génito-urinaires, tome xxiii.
great difficulty has been met with in complete extirpation, as in Case 1. The retained testis lies so close to the posterior abdominal wall that the adjacent tissues are soon involved. Considering the liability to rapid involvement of the lymph glands of the affected testicle it would seem reasonable in all cases to remove them as well as the primary tumour. It adds greatly to the seriousness of the operation, but in young persons the risk is worth taking. It was done by Roberts of Philadelphia, but his patient was old and fat and the operation was secondary to a recurrence.

6 Annals of Surgery, 1902
A Clinical Lecture
ON
ERYTHRÆMIA
(POLYCYTHÆMIA WITH CYANOSIS, MALADIE DE VAQUEZ)

Delivered in the Radcliffe Infirmary, Oxford, on November 28, 1907

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Reprinted from THE LANCET, January 18, 1908
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GENTLEMEN,—It is interesting to follow the stages in the recognition of a new disease. Very rarely does it happen that at all points the description is so complete as at once to gain universal acceptance. Albuminous urine and its association with dropsy had been noted before Bright studied the changes in the kidneys and drew with a master hand the picture of the disease which we now know so well. Complete as was Addison's monograph it took a good many years before we recognised fully the relation of the suprarenal bodies to the disease that now bears his name. The original description of simultaneous disease of lymph glands and spleen by the distinguished old Quaker physician, Hodgkin, had not attracted any more attention than had his equally remarkable contribution on insufficiency of the aortic valves (which antedated by several years Corrigan's account), until Wilks, the "grand old man" to-day of British medicine, drew attention to the condition. And so it was with myxœdema, which was well known for years in England before our continental brethren recognised its existence. First a case here and there is reported as something unusual; in a year or two someone collects them and emphasises the clinical features and perhaps names the disease. Then in rapid succession new cases are reported and we are surprised to find that it is by no means uncommon. This has been the history of a very remarkable malady of which the patient before you is the subject.

In 1892 Vaquez, a Paris physician, well known for his researches on the pathology of the blood, described a condition of hyperglobulism with cyanosis, which he believed to be due to an over-activity of the blood-forming organs. Then in 1899 Cabot of Boston reported a case and a second in the following year, and McKeen another Boston case. In reporting a fifth case Saundby and Russell seem to have been the
first to realise that the condition was a "definite clinical entity and one which was new to medical science." In 1901 I had become greatly interested in the question, having under observation a case of chronic cyanosis with a very high blood count. Then in quick succession I saw two other cases and these formed the basis of a paper\(^1\) in which I brought forward the available evidence in favour of the view that we had to deal here with a new disease. In the following year I returned to the question and was able to summarise 17 cases.\(^2\) Within the past three years the literature on the subject has grown apace. From almost every country cases have been reported. The Index Medicus for 1906 has 12 references to papers, while in the numbers for this year to date there are 17. Papers of great value have been published by Türk of Vienna, Weintraud of Wiesbaden, Bence of Budapest, Senator of Berlin, Parkes Weber, Robert Hutchison, Watson and Saundby in this country, and by Engelback and Brown and by Howard Anders in the United States. There are now at least 70 cases on record, which indicates that we are dealing with a fairly common affection and one which, like myxoedema, only requires to be known to be recognised.

The patient before you illustrates in a typical way the features of the disease. We are much indebted to Dr. E. Morton, of Woodstock, who brought her in and to Dr. W. P. Richardson of Blisworth, Northampton, who has arranged for her to return for a more careful study. A married woman, aged 54 years, with five children, she has had all her life exceeding-ly good health. For the past three years she has not been so well, suffering with pains in the hands and feet, which a medical man whom she consulted called neuritis. She has been able to attend to her work, but of late years has lost somewhat in strength. She has not been short of breath and she has not had headaches. About a year ago she noticed that the abdomen was swollen. For some time she has known that her face has changed in colour. It is darker and in the cold becomes intensely blue. The hands and feet, too, have become blue, particularly the feet and legs after she has been walking about, and they are at times painful. Altogether, the history presents very few points of moment and the condition has come on insidiously in a very healthy woman. When admitted the cyanosis was extremely marked and the house physician, Dr. J. W. S. Macfie, an old pupil of Dr. G. A. Gibson of Edinburgh, and who naturally knows all about cyanosis, immediately made a blood count and had the diagnosis of the new disease ready for us.

The patient's appearance at once attracts attention. The face has a dusky hue and the lips a purple tint; she rests quietly without dyspnœa and with the head low. Over the cheeks and nose there are numerous small distended venules.

1 American Journal of the Medical Sciences, 1903.  
The conjunctivæ are not suffused; the tongue is of a deep, purplish-red colour. The hands and feet are very much cyanosed, though not so deeply as they were on admission. She tells us that after very slight exposure to cold they become livid. One remarkable circumstance is the degree of vaso-motor instability. If the hand of a healthy person is held down for a little while there is a slight and perceptible change in colour, but it does not become actually cyanosed unless, perhaps, in cold weather. Usually, however, a marked difference in colour is noticed and when held up above the head the skin gradually becomes pale again. You can see the change, for instance, in a normal hand in a very few seconds. When this patient holds the hand down within 30 seconds the veins become turgid and full and the skin of a deep-blue colour; held up the blood rapidly leaves the hand and it becomes pale. The effect of posture is still more striking in the feet. If she sits on the edge of the bed for a few minutes the legs, as high as the knees, become purple. One can almost see the blood drop into them. When she returns to bed and the leg is held up the blood very quickly runs out and the skin becomes pale. Over the general surface of the body there is a dusky tint which is best seen by pressing the hand firmly upon the skin of the abdomen or the back. The anaemic impression remains for some seconds and is very slowly obliterated. Another feature of interest about the skin—when a series of lines are drawn with a sharp edge the usual reaction is hyperæmic (which from its intensity in some conditions of the nervous system has been called the *tache cérébrale*), the result of a vaso-dilator action. But here just the opposite takes place. Along the line of irritation there is a vaso-constrictor action in the small arterioles and the lines stand out as bands of anaemia, in this instance of unusual width, fully four millimetres on each side of the line.³

The second feature of importance relates to the abdomen, the skin of which is relaxed and scarred, and to the left of the umbilicus there is a marked prominence. On palpation this is easily made out to be a greatly enlarged spleen; the edge is just at the navel but to the left it extends fully four fingers' breadth below this level. Into the left flank the edge may be readily traced, where it is two fingers' breadth above the anterior superior spine of the ilium. A notch is readily palpable and when grasped in the two hands the whole organ is freely moveable. The flatness on percussion extends as high as the eighth rib. The liver is not enlarged and there is nothing else of any moment.

³ This "white line," one of the most interesting manifestations of what S. Solis-Cohen calls vaso-motor ataxia, is met with: (1) in many normal persons; (2) in hysteria and neurasthenia; and (3) in conditions of cutaneous irritations when dermatographia may be produced. It may come out and persist as a white line; transient hyperæmia may precede it, active hyperæmia may follow it, or occasionally factitious urticaria. Recent French writers have suggested its association with adrenal insufficiency.
in the abdomen. Except for the cyanosis and the dilatation of the superficial veins there is nothing of special moment in the circulatory system. The apex of the heart is tilted into the fourth interspace, but the organ is not enlarged. The sounds are clear at the apex and base and there is no special accentuation of the aortic second sound. The pulse is 96 and the blood pressure is 118. The superficial arteries are just palpable. There are numerous petechiae scattered over the skin of the legs. The examination of the lungs is negative. There is no emphysema. The third point of special interest is in the examination of the blood, which flows in a large drop from finger or ear when pricked, and is sensibly richer in colour than normal and the drop is unusually viscid. A number of counts have been made which show the red blood corpuscles to range from 9,200,000 to 9,710,000 per cubic millimetre; the leucocytes are about 24,000 per cubic millimetre and the haemoglobin from 130 to 160. The red blood corpuscles look normal; the average diameter is 7·5 microns. There are a few poikilocytes. The most striking feature is the presence of a number of nucleated red blood corpuscles of all forms. A differential count of the leucocytes show polymorphs 73·6 per cent., lymphocytes 18 per cent., large mononuclear forms 3·6, and coarsely granular eosinophiles 4·8 per cent.

Dr. G. Mann has estimated for me the specific gravity of the blood which is 1·0755; the normal average is 1·0777. He has also very kindly made a comparative estimate with the hematocrit of the ratio of plasma and corpuscles, which was the following:—

<table>
<thead>
<tr>
<th>Patient.</th>
<th>Normal person for control.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red cells .....</td>
<td>76·5</td>
</tr>
<tr>
<td>White cells ...</td>
<td>4·85</td>
</tr>
<tr>
<td>Plasma .......</td>
<td>18·67</td>
</tr>
<tr>
<td>Red cells .....</td>
<td>48·5</td>
</tr>
<tr>
<td>White cells ...</td>
<td>3·0</td>
</tr>
<tr>
<td>Plasma .......</td>
<td>48·5</td>
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</tbody>
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Dr. G. Mann estimated that the patient had fully 58 per cent. more red blood corpuscles than the normal individual. Miss Mabel Fitzgerald has estimated on several occasions the alveolar CO₂ by Haldane's method and it was found to range from 4·13 to 4·61, just at the lower limit of normal. The urine looks normal. Dr. W. Ramsden of the physiological laboratory has made a careful study of it with the view of determining the presence of an excess or abnormality of the pigments. The specific gravity is 1016. A small quantity of albumin is present. There is no sugar, the pigments normal and not in excess; urea was 18 grammes for the 1000 cubic centimetres; the chlorides 5·8 grammes.

You must not expect to see in every case the triad of symptoms so well marked as in this patient. I think you will agree with me that we have here a condition which does not conform to any known disease and I am in full accord with those who regard it as a hitherto unrecognised affection of the blood-making organs. We may now discuss the features in greater detail.
The cyanosis, the signal symptom, which at once calls attention to the condition, has been present in a great majority of the cases. And yet it is accidental and at any time can be made to disappear.\(^4\) Keep this patient for an hour or even less at a temperature above 80° and the cyanosis will change to a vivid red. The first case I saw presented remarkable alterations in this respect. In the hot summer days he was "red as a rose" and looked bursting with blood and in the winter he became as blue as indigo. The colour of the skin in health depends on two circumstances—the degree of fulness of the peripheral vessels and rate of the circulation in them. There may be general pallor and apparent anaemia with a normal blood count. These pseudo-anaemias are most interesting and deceptive. Only the other day I saw a young girl who at once attracted attention by her colour, or rather by an entire absence of colour, but when I remarked upon it she answered, "Oh, I never worry about that, I was born pale." The symptoms did not suggest anaemia, but I was not prepared to have a report from Dr. A. G. Gibson that she had more than 5,000,000 of red blood corpuscles to the cubic millimetre. It is a matter of local distribution. Just the opposite condition may be present—the colour may be good with pronounced anaemia. The old writers recognised a chlorosis rubra. A few years ago there was admitted to Ward E of the Johns Hopkins Hospital a well-built, healthy looking man, complaining of shortness of breath and palpitation of the heart. His colour was high and due, as could be seen with a lens, to fulness of the small venules of the skin. Even the skin of the body looked reddish. To our astonishment the count was 2,000,000 of red blood corpuscles per cubic millimetre. We called the case anaemia rubra. It was not until the count sank below 1,200,000 per cubic millimetre that the features of anaemia became evident.

In individuals, and indeed in nations, there are remarkable differences in the degree of fulness of the cutaneous vessels. The out-of-door life and the damp cold, plus sometimes the plethora-producing beer and the vaso-dilator influence of spirits, tend to make the exposed skin of the Englishman much more vascular than in his American or colonial relatives. Chillblain, so common in this country, is one expression of this extreme, local congestion under the influence of cold. A state of permanent turgescence of the capillaries and small veins of the hands and face may be entirely local—the feet may not be involved—and is usually of no moment, save in women who worry over the appearance and appeal to us—in vain, I fear—for help. I saw one rare sequel of this chronic engorgement of the vessels of the hands—viz, clubbing of the fingers. The man had had for 20 years or more a red face and red beefy-looking hands—in

\(^4\) When this patient was shown at the Clinical Section of the Royal Society of Medicine as the room got hot and doubtless in part due to the excitement her colour changed and the skin lost the cyanotic hue,
the winter always blue and cold. There was no heart lesion. He had noticed the change in the shape of the terminal joints for five or six years.

The other circumstance upon which the colour of the skin depends is the rate of blood flow. If now I rub vigorously this patient's left hand, or place it in warm water, the activity of the circulation in the skin is increased, as can be seen at once by the rapidity with which an area of pressure anaemia is filled up. And with the increased rapidity of blood flow the colour changes from a reddish-purple to a bright red. In the one the blood is arterial, in the other venous; the change in colour is due to a rapidly produced change in the rate with which the blood passes through the capillaries of the skin. Normally the current is so rapid that the tint of the skin is arterial. Cyanosis results whenever the capillaries are full and the current is slow. The factors must be combined. Conditions in which the stream in force and volume sinks to a minimum may be associated with pallor, not with cyanosis. I had once a unique experience. I remember it well, as the patient was one of the first to apply after the opening of the Johns Hopkins Hospital. She had Raynaud's disease and held up her right hand, the fingers of which presented a remarkable appearance. The little one was normal, the ring finger was as white and as cold as marble, the middle finger was deeply cyanosed (local asphyxia), while the index finger was as "red as a rose." There was probably just as much blood in the index as in the middle finger, but in the one the arterial sluices were wide open, the capillaries distended, and the stress rapid, while in the other the arteries were contracted, the capillaries full, and the stream slow. In the dead-white ring finger there was probably more than contraction of the arteries and slowness of the stream—an angio-spasm involving all the smaller vessels, arterioles, capillaries, and venules. In the patient before us there may be two accessory factors favouring slowness of flow in the terminal vessels. The observations of Parkes Weber, Haldane, and others have shown that the whole volume of blood is greatly increased. In one case Haldane estimated the total amount to be more than double the normal. With this the specific gravity is higher than normal. But another element, the viscosity, is still more important and this has been shown by many observers to be greatly increased. It may be readily seen with the drop as it flows, for example; it takes an unusually long time to spread under a covered glass. It would, of course, be in the capillaries that this increased viscosity would be effective.

There is one other factor in inducing cyanosis upon which Saundby, very rightly, lays great stress—namely, the dilatation of the venules and the loss of tonicity in the peripheral veins. In this patient the cyanosis in the legs is a question altogether of gravity. Dependent they are blue, held up they become pale. As she is recumbent in bed they are of a dusky purplish red. We must not forget, however,
that cyanosis is not altogether a question of stasis and capillary engorgement. The peculiar colour is a corpuscular affair depending upon the haemoglobin whether oxidised or reduced. There are remarkable forms of cyanosis in which the colour of the skin is altogether due to changes in the haemoglobin: the methaemoglobinemia due to the taking of the coal-tar products, the enterogenous cyanosis which has been studied and reported by the Dutch physicians (Stokvis and Talma) and by Samuel West and Wood Clarke in this country, and the form reported by Gibson and Douglas in which colon bacilli were isolated from the blood. West and Clarke give an analysis of all the recorded cases of this idiopathic cyanosis, both met- and sulph-haemoglobinemia. It has been called enterogenous on the view that the change is due to the action of substances absorbed from the bowels. The tint of skin and mucous membranes of both toxic and enterogenous forms differs from that of ordinary cyanosis and may be recognised at a glance, as it is rather an ashen-grey lividity, suggesting a light type of argyria. A popular American headache remedy introduced of late years into this country is responsible for many cases, and on several occasions I have put the question point-blank, "Have you been taking ----?" There is a certain characteristic colour of the polycythaemic cyanosis which is referred to by Cabot and one or two other observers—a sort of red Indian hue which is most marked in circumstances when the arterial is just beginning to obscure the venous tint. And one more point may be mentioned; as with all conditions in which there is persistent hyperæmia of the skin pigmentation may occur; this was very marked in a case of Stockton and Lyon. There have been cases reported in which the pains in the hands and legs with the extreme congestion have suggested the erythromelalgia of Weir Mitchell—the red, painful neuralgia. In Joseph Collins's case this was a very marked feature and the patient complained a good deal of pains in the hands and feet, but in the few cases of erythromelalgia I have seen only one extremity was attacked, and it was, as it name indicates, a red erythema, not influenced by gravity to any extent. The extreme grade of local asphyxia may suggest Raynaud's disease, and this has been the diagnosis in a case which Dr. W. S. Thayer very kindly showed me.

For the recognition of the disease a blood count is necessary, not simply a blood examination, as in the cases of leukæmia. The essential feature, the polycythaemia, the erythremia, can be determined only by counting the number of red blood corpuscles in a cubic millimetre. A true polyaemia, a plethora vera, is present. Haldane estimated that a patient of Parkes Weber had nearly double the normal amount of blood and post mortem the cases have shown a state of great fulness and engorgement of the internal vessels. This is another point of analogy with leukæmia, in which also there may be an extraordinary increase in the total volume of blood. The counts have been very remark-
able—this patient has nearly double the normal. Cabot has reported 12,000,000 per cubic millimetre, and in a case of Köster the count was 13,600,000 per cubic millimetre. The question has been raised whether it is possible to pack this number of red blood corpuscles into a cubic millimetre. Dr. G. Mann, who has interested himself in this point, tells me that it would be possible to put 13.9 millions of red corpuscles into this space, so that the maximum recorded count is within this limit. You might suppose that in every condition of local engorgement with cyanosis the blood count would be high, but this is not the case. In a case of alcoholic neuritis with legs just as purple as those of this woman, in Raynaud's disease, in the skin of a "Bardolphi an" facies bursting with blood, the number of red blood corpuscles per cubic millimetre may be normal.

The enlargement of the spleen is variable. It rarely reaches the size seen in this patient. Cases have been reported in which the edge of the organ has reached the crest of the ilium. It may precede the occurrence of the cyanosis and it may not have been noticed during life but have been found post mortem. It has been present in a large proportion of all the cases.

Many additional features have been noticed. This patient presents very few symptoms, only pains in the hands and feet and a slight loss of vigour. Headache has been a common complaint and a distressing sense of fulness with occasional attacks of vertigo. One of my cases had recurring attacks of nausea and vomiting. Constipation is a very common symptom. High blood pressure is the rule and it is remarkable considering the great increase in the volume of blood that it is not increased in the present case. Sclerosis of the superficial arteries and a trace of albumin in the urine have been frequently noted. In the first case I studied this combination of albuminuria, high blood pressure, and arteriosclerosis had suggested a diagnosis of Bright's disease. Attacks of bronchitis and of asthma have been described. In Case 1 of my series during the winter season piping râles were constantly present in the bronchial tubes. Hæmorrhages have occurred in a number of instances, sometimes petechial, as on the skin of this patient, sometimes from the mucous membranes—hæmoptysis, hæmatemesis, or hæmaturia. Death from cerebral hæmorrhage has occurred in several instances.

We scarcely know enough to discuss intelligently the pathology of this interesting affection but there have been five or six post-mortem examinations within the past 18 months which throw some light upon the condition. Theoretically, polyglobulism may be due to a diminished destruction of the red blood corpuscles, to an excessive loss of plasma, and to an increased production of red cells. A relative polycytæmia is by no means rare and occurs in many clinical conditions associated with loss of fluids. It rarely reaches the high grade seen in these cases. Weinstrand suggests that the polyglobulism of this disease is due to retarded destruction but there are no clinical or anatomical facts in support of this
view; nor, on the other hand, is there any evidence of increased haemolysis in the deposition of pigment in organs, such as occurs in hæmochromatosis, or in changes in the proportion of the urinary pigments. A true erythæmia follows a residence at high altitudes and is present in congenital heart cases, in both probably an adaptive process, more corpuscles being required to carry the $O_2$ metabolism. The studies on the bone marrow by Miller and others have shown it to be in a state of active hyperplasia in congenital heart cases. Recently Ambard and Fiesinger have reported a case of congenital cyanosis with polycythæmia in which there was the most intense proliferation of the bone marrow.

In this splenic polycythæmia there have been at least six post-mortem examinations—all with practically the same anatomical changes—a plethora vera; intense hyperplasia of the bone marrow, a myelomatosis rubra; and enlargement of the spleen, with histological changes indicative of chronic passive congestion, a uniform hyperplasia of all its elements. It may be that the spleen participates actively in the process, as the histological studies do not indicate that it is an enlargement due to the accumulation of the products of haemolysis. Neither spleen nor lymph glands ever lose their power of making red blood corpuscles, though in normal states in the adult they hand the function over to the bone marrow. But even with an undoubted evidence of myelomatosis we are not nearer the essence of the disease—the cause of the mysterious flooding of the body markets with the products of its red-blood factories. From a score of causes the output may at any time be doubled, either by working overtime or by setting in motion all the blood-making machinery. After a haemorrhage the little discs are turned out in countless billions and if from any cause, as in high altitudes, or in congenital heart disease, there is trouble in the lung-exchange to barter the $CO_2$ for the $O_2$, an extra supply of corpuscles is soon forthcoming to make up the defect. Nothing is more certain—in the microcosm as in the macrocosm, given a demand and there is soon a supply. But here is a condition in which, so far as we know, there is an over-supply without any corresponding demand and the same riddle confronts us as in leukæmia and several other diseases of which over-production of a normal tissue or element is the essence. The interesting suggestion has been made by Korányi and Bence that the disease is due to a lessened power of the red blood corpuscles to absorb oxygen. Given a haemoglobin of poor quality, incapable of combining normally with $O_2$, a greater number of erythrocytes would have to be manufactured to meet the usual demands of the system. With this, too, they regard the increased viscosity of the blood as an important element in producing the

5 Arch. de Med. Experiment. Mars., 1907.
cyanosis. Saundby has brought forward the view that there is such a state of capillary dilatation with slowing of the blood current that each little boatlet of blood cannot discharge its proper cargo, and to make up for this failure more are put into circulation, the antithesis of the condition existing at high altitudes when as each little boatlet cannot get a sufficient cargo of \( O_2 \) in the space of time it remains in the lung capillaries, three are sent out to do the work for which two usually suffice. The remarkable combination of symptoms is one which lends itself to theoretical considerations. We have not yet got to the heart of the mystery of leukæmia, and in this remarkable disease is added another to the many interesting problems relating to the physiology and pathology of the red blood corpuscles.

A word about the name, always a difficulty in connexion with a new disease. The choice lies between an eponymic, an anatomical, or a symptomatic name. The one suggested by Parkes Weber—splenomegalic polycythaemia—has been adopted in this country. In France it has been called maladie de Vaquez, or Vaquez-Osler, and in the United States some of my friends have been kind enough to associate my name with it. But the priority of description rests with Vaquez and if a name is to be associated with the disease it should be that of our distinguished French colleague. Among other names which have been suggested are polycythaemia rubra and erythrocythaemia megalosplenica. In many ways the name erythræmia, suggested by Türk of Vienna, seems to be the most appropriate. It is short and it designates the most striking and the most constant peculiarity; it has the great advantage of an analogy with leukæmia, and both affections are associated with states of morbid activity in the bone marrow.

We know as yet very little about the treatment of the disease. As a long experience with leukæmia has demonstrated, we have nothing at our disposal which controls the morbid processes in the bone marrow. Two or three measures have been carried out which have given relief. When there are fulness of the head and vertigo repeated bleedings have been tried with great relief. Inhalations of oxygen have been used and cases have been reported in which the cyanosis has been relieved and the number of red blood corpuscles greatly diminished. We shall ask to have this given a thorough trial and Dr. Sankey has agreed to apply the x rays over the spleen, which seems to have been helpful in some instances of enlargement of the organ.\(^6\)

\(^6\) For a month this patient has had the oxygen inhalations daily and the x-ray treatment. She has gained several pounds in weight and is feeling very much stronger. The oxygen inhalations have had no influence on the cyanosis, nor is there any change in the polycythaemia. The spleen is somewhat reduced but the cyanosis this morning (Jan. 1st) is very marked.
I spent the first four months of 1874 here. I came from Berlin with Hutchinson, an Edinburgh man (Sir Charles F., who has recently died), and we lived together near the Allgemeines Krankenhaus. As illustrating the total blotting out of certain memories, particularly for places, I may mention that strolling to-day up the Alserstrasse I could not recall the street, much less the house, where we had lived for the four months. I found my way readily enough to the Riedhoff, where we were in the habit of dining, and where I first met my old friends, Fred Shattuck, E. H. Bradford, E. G. Cutler and Sabine of Boston. An extraordinary development has taken place in the city within thirty years, and I scarcely recognized the Ringstrasse. Then, only the foundations of the new university buildings and of the Rathaus had been begun. Now these, with the parliament house, the courts of justice, the twin museums of art and natural history and the new Bourg Theater, form a group of buildings unrivaled in any city.

The primary object of my visit was to attend the Congress für Innere Medizin, and I had the pleasure of having with me my old student and friend, Dr. Joseph H. Pratt of Boston. We reached Vienna in time for the preliminary Sunday evening social gathering in the Kursalon of the City Park. Here we found a greeting in true German fashion and a hearty welcome from the president, Professor Müller of Munich. The work of the congress began at sharp 9:30 on Monday morning with a discussion on the "Relation of the Diseases of the Female Generative Organs to Internal Maladies." Unfortunately, the large University Hall, in which the meeting was held, was most unsuitable. Though seated not very far away, Professor Rosthorn's remarks were almost inaudible. It is a miserable mistake in introducing a discussion on any subject to speak for more than half an hour, but to continue for an hour and a quarter is too much for human endurance, and many did not wait for Professor Lenhartz's discussion of the problem from the standpoint of internal medicine.
Nothing new was brought out, and so far as I could gather, Professor Rosthorn took much the same ground as Clifford Allbutt in his well-known Goulstonian lectures dealing with the intimate relationship through the sympathetic nervous system of the generative functions with those of the other organs.

Quite an animated discussion followed, in which Stintzing, Turban, Klemperer and others took part. Dr. Singer read a most interesting paper on "Intestinal Diseases in the Climacteric," calling attention particularly to frequent hemorrhages which he had known to arouse suspicion of malignant disease.

In the evening the city fathers gave a magnificent banquet to the congress in the superb hall of the Rathaus. At three long tables were seated some 600 guests.

On Tuesday morning Professor Neisser of Breslau opened the discussion on the "Present Position of the Pathology and Therapy of Syphilis." This was a splendid address, delivered without notes, in a good clear voice, and the subject matter arranged in a most orderly manner. He dealt particularly with the three points brought out by recent investigations—Schaudinn's discovery of the spirochete, the discovery of Metchnikoff that apes could be infected, and the discovery of Schaudinn that the fluids of infected persons reacted specifically. He dealt very fully with his own experimental work in Java, much of which has appeared, but it was particularly interesting to hear the relation of the extraordinary influence of atoxyl on the infected animals. It acts as a specific and prevents the development of the spirochetes, so that if given soon the disease could be completely stopped, and later the animal reinfected. Neisser was followed by Professor Wassermann, who described with great clearness his studies on the specific reaction. We have now apparently a diagnostic means by which the presence of the disease may be definitely determined at a very early stage. As the reaction may be present before secondary symptoms appear, it will have a very important influence in early treatment. The general expression of opinion is very favorable to the method. Professor Finger spoke of it to me in the warmest terms. It persists after all clinical symptoms have disappeared, and a positive response in locomotor ataxia and in general paralysis clinches the question of the true syphilitic nature of these maladies. Both Neisser's and Wassermann's addresses were models.

One of the most important communications of the congress was from von Noorden's clinic. Two of his assistants have been carrying on researches on the "Mutual Relations of the Pancreas and Thyroid." For many years von Noorden has had the idea that there was some important mutual influence between these two organs. The remarkable fact comes out that in animals from which the thyroid gland has been removed it is impossible to produce diabetes by any of the
known methods, not even by the Claude Bernard puncture of the medulla.

Of the third day of the congress I saw but little. Professor Schmidt of Halle introduced a discussion on “New Clinical Methods of Investigating the Functions of the Intestine,” in which he went over his recent work very fully, most of which has already been referred to in The Journal.

DINNER TO THE CONGRESS.

At the dinner of the congress His threw out the interesting suggestion (apropos of the presence of Grünbaum and Trevelyan from Leeds, Pratt from Boston, Barr from Portland, Ore., and myself), that the time had come to have an International Congress for Internal Medicine. The physiologists, the laryngologists, the alienists and others have such gatherings, and there now exist in France, Germany and Italy, England and the United States special societies devoted to internal medicine. A congress once in four or five years would be most helpful. We should get to know each other and be able to appreciate better the work done in different countries. Professor Schultze of Bonn gave his usual humorous sketch of the proceedings of the congress, which was greatly appreciated. A ripple of excitement spread around the tables when it was noticed that the places in the orchestra of the pianist and the first violin had been taken by von Neusser and His. The members gathered around the elevated gallery and the distinguished artists were greeted with loud applause and had a vigorous encore.

THE VIENNA LIBRARIES.

Prof. Max Neuburger, whose name is so well known in association with Pagel as editor of the “Handbuch der Geschichte der Medizin,” very kindly arranged to show me the points of interest in the Vienna libraries. I may mention, by the way, that Professor Neuburger’s new work on the “History of Medicine,” of which one volume has appeared, is being translated and will be published from the Oxford University Press. He expects to have Volume II completed this year, and we hope to issue the English edition complete in one volume within the next fifteen months. I was greatly interested to see the new home of the Wiener medizinische Gesellschaft, built under the presidency of Billroth, which combines features of a library, a club and meeting place. The auditorium is exceptionally well arranged with seats for 300, and there is a large gallery. The library now numbers more than 40,000 volumes and is very rich in current periodicals. The university library is one of the largest in the city, and the arrangement in it for the accommodation of the medical students seems to be excellent. At the time of our visit the section of the reading room assigned to them was nearly full. A room has been set aside in connection with the medical
faculty for the collection of all the literature relating to the history of the school, for the collection of the works of all the famous old men connected with it, and a repository for pictures and instruments, etc., the whole to form a collection illustrating the evolution of the history of the medical department of the university. This example could very well be followed in all of our medical schools. It has been done to some extent at the University of Pennsylvania, as William Pepper III. has already made large collections for this purpose.

The Hofbibliothek is unusually rich in manuscripts and early printed books. I was anxious to see the copy of “Christianismi Restitutio” of Michael Servetus, 1553, in which for the first time the lesser circulation is described. This is one of the only two known copies in existence. The entire edition was confiscated, and the author, at the time a practitioner in the little town of Vienne, near Lyons, fled for his life to Geneva. Here his heterodoxy was quite as obnoxious to Calvin, into whose hands he fell, and he was burnt at the stake in the same year. The “Restitutio” is one of the rare books of the world. Only two of the 1,000 copies known to have been printed have survived. The one in the Bibliothèque Nationale originally belonged to Dr. Mead, and the history is fully given in an appendix in Willis’ work, “Servetus and Calvin.” The Vienna copy is in excellent preservation, beautifully bound, and states on the title page that it came from the library of a Transylvanian gentleman living in London. It fell into the hands of Count de Izek, who presented it to the emperor of Austria. It is a thick, small octavo of about 700 pages. The first one to give credit to Servetus for his discovery of the lesser circulation was Wotton, whose “Reflections Upon Learning, Ancient and Modern,” 1694, is a most interesting book, for an introduction to which I have long been grateful to my friend, Dr. Norman Moore. The other work that I was most anxious to see was the famous manuscript of Dioscorides, prepared at the end of the fifth century for Julia, daughter of the Emperor Flavius. It is one of the great treasures of the library. Now to us in the West only a name, Dioscorides, an army surgeon of the time of Nero, fills a great place in the history of medicine, and is still an oracle in the Orient. He was not only a great botanist, but he was one of the first scientific students of pharmacology. Scores of fine editions of his work, with commentaries, were issued in the fifteenth and sixteenth centuries. Two years ago this Vienna manuscript was reproduced in fac simile at Leyden. Though very expensive, the two volumes costing $150, it is a work which all the larger libraries should get, and it is just the sort of present librarians should make our wealthy consultants feel it a privilege to give.
I was surprised to hear Professor Müller say that he thought in hospital architecture Vienna led the world, and that there was here a group of architects who were adepts in all matters relating to hospital construction. I have come to his conclusion, on what may appear to be very hastily acquired data. It is not often that in the same day and in the same institution one passes from eighteenth to twentieth century conditions. Dr. Koessler took us to the old medical clinic, now in charge of von Neusser, where I found the old wards very much the same as I remember them in 1874. Except in minor details, not only Oppolzer and Skoda, but probably also Peter Frank and de Haen could return to the Allgemeines Krankenhaus and not be surprised by any very unfamiliar sights. There is the same extraordinary wealth of clinical material. I must say it was a surprise to see the old type of nurse; not, of course, that she is necessarily either unintelligent or inattentive. Indeed, as we passed a bed in which there was a new patient whom the junior assistant had not seen, he turned to one of the nurses, who in reply to his question said, "Yes, Herr —— says she has mitral stenosis and insufficiency!" I was interested to see in the ward a case of Pick's disease, the pericardial pseudocirrhosis of the liver. The old question comes up here as to priority of description. In the special number of the Wiener klinische Wochenschrift, issued for the congress, Professor von Neusser describes it as "Morbus Bamberger." He states that in 1872 Bamberger described the condition as a special malady which he had already known for a long time and which up to that time had not been recognized in the literature. Certainly Pick deserves credit for having brought together all the known facts relating to a clinical condition to which very little attention had been given before his paper. I had a most interesting talk with Pick and Brauer and Wenckebach on the whole question, which is not one simply of pericardial adhesion. Wenckebach has helped to solve the problem in a recent number of Volkman's Vorträge in an article on the "Relation Between Respiration and Circulation." Brauer of Marburg, who is coming over to the session of the American Medical Association, will discuss the subject in connection with his operation of cardiolyis.

If anyone interested in hospitals—in every possible detail, construction, situation, general arrangements for the comfort of the patients, for the convenience of the students, for the advancement of science—if such an one wishes to have a Queen-of-Sheba sensation, let him visit the first group of the new buildings of the Allgemeines Krankenhaus. They have begun the rebuilding with the departments for women, and two of the three clinics, for midwifery and gynecology, are completed, one for Professor Schauta and the other for Professor Rosthorn, recently called from Heidelberg. About
10,000 deliveries a year take place in the three clinics, one of which is for midwives. The new clinics are exact duplicates of each other, and each has accommodation for about 200 patients. The buildings are of four stories, a central building with wings, built of brick and stucco, with spacious corridors, large windows, tiled floors and white oil-finished walls. Inside and out they form the most attractive hospital buildings that I have ever seen. But it is not so much this aspect that gives one that sinking of the heart of which the Queen of Sheba complained when Solomon showed his treasures—it is the organization and the completeness of the arrangements for teaching and for the scientific study of disease. One large floor is assigned to students, who all live in the building while attending the midwifery cases. Each clinic has its own laboratory, a special museum for teaching purposes, a library and a fully equipped small laboratory adjoining the gynecologic operating room, so that an opinion may be given immediately as to the nature of a growth. Down to the smallest detail every care has been taken to make these two clinics the most perfect of their kind, and if the hospital is completed on this elaborate plan it will, indeed, be worthy of the fame of the Vienna school and there will be nothing like it in Europe or America. The government foots the bills, and the total cost of the two buildings has been 9,000,000 kronen ($1,800,000).

Professor Schlesinger very kindly took us to the Franz Josef Hospital, also a new building, on a less elaborate scale but very complete in all its appointments. It is particularly well arranged for the acute infectious diseases, and the most elaborate precautions are taken to isolate and disinfect the patients. Professor Schlesinger is very popular with American students, and we found working in his wards Dr. George Cheyne Shattuck III. of Boston, and young Dr. Fischel of St. Louis, both of whom have for some months been acting as voluntary assistants. It was interesting to see two wards devoted entirely to erysipelas; as far as possible all the cases in the city are sent here. Connected with this hospital is a beautiful new children's department, built by Professor Schlesinger's father-in-law. It looked to be an admirable model for the new Harriet Lane Johnston's children's department at the Johns Hopkins Hospital. In the arrangement for isolating cases, in the simple and easily worked character of the wards, in the laboratory arrangements and in the special incubators for feeble babies the hospital seemed much in advance of anything I had ever seen.

The scientific laboratories of the medical school have been completely transformed. Dr. Fröhlich took us through Professor Meyer's Pharmacologic Institute and through the new physiologic laboratory and the anatomic department—such a contrast to the old days!
CRITICISM OF WORK OF CONGRESS.

The general impression one gets of the work of the congress is very favorable. Too much, perhaps, is attempted. There are too many papers, but the keenness of the men and the scientific interest are most stimulating. As I remarked about the congress two years ago in Munich, there is a strong tendency in internal medicine to-day toward physiologic and chemical problems. On the long list of papers, eighty-eight in number, there were only about five dealing with bacteriologic questions. An extraordinary number dealt with questions in physiologic pathology and presented the results of experimental work.

INFLUENCE OF VIENNA ON AMERICAN MEDICINE.

As a medical center Vienna has had a remarkable career and her influence, particularly on American medicine, has been very great. What was known as the first Vienna school in the eighteenth century was really a transference by van Swieten of the school of Boerhaave from Leyden. The new Vienna school, which we know, dates from Rokitansky and Skoda, who really made Vienna the successor of the great Paris school of the early days of the nineteenth century. But Vienna's influence on American medicine has not been so much through Skoda and Rokitansky as through the group of brilliant specialists—Hebra, Sigmund and Neumann in dermatology; Arlt and Jaeger in ophthalmology; Schnitzler and von Schrötter in laryngology; Gruber and Politzer in otorlology. These are the men who have been more than others responsible for the successful development of these specialties in the United States. Austria may well be proud of what Vienna's school has done for the world, and she still maintains a great reputation, though it can not be denied, I think, that the Esculapian center has moved from the Danube to the Spree. But this is what has happened in all ages. Minerva Medica has never had her chief temples in any one country for more than a generation or two. For a long period at the Renaissance she dwelt in northern Italy, and from all parts of the world men flocked to Padua and to Bologna. Then for some reason of her own she went to Holland, where she set up her chief temple at Leyden with Boerhaave as her high priest. Uncertain for a time, she flitted here with Boerhaave's pupils, van Swieten and de Haen, and could she have come to terms about a temple, she doubtless would have stayed permanently in London, where she found in John Hunter a great high priest. In the first four decades of the nineteenth century she lived in France, where she built a glorious temple to which all flocked. Why she left Paris, who can say? but suddenly she appeared here, and Rokitansky and Skoda rebuilt for her the temple of the new Vienna school, but she did not stay long. She had never settled in northern Germany, for though...
she loves art and science she hates with a deadly hatred philosophy and all philosophical systems applied to her favorite study. Her stately Grecian shrines, her beautiful Alexandrian home, her noble Roman temples, were destroyed by philosophy. Not until she saw in Johannes Müller and in Rudolph Virchow true and loyal disciples did she move to Germany, where she stays in spite of the tempting offers from France, from Italy, from England and from Austria.

In an interview most graciously granted to me, as a votary of long standing, she expressed herself very well satisfied with her present home, where she has much honor and is everywhere appreciated. I boldly suggested that it was perhaps time to think of crossing the Atlantic and setting up her temple in the new world for a generation or two. I spoke of the many advantages, of the absence of tradition—here she visibly weakened, as she has suffered so much from this poison—the greater freedom, the enthusiasm, and then I spoke of missionary work. At these words she turned on me sharply and said: "That is not for me. We gods have but one motto—those that honor us we honor. Give me the temples, give me the priests, give me the true worship, the old Hippocratic service of the art and of the science of ministering to man, and I will come. By the eternal law under which we gods live I would have to come. I did not wish to leave Paris, where I was so happy and where I was served so faithfully by Bichat, by Laennec and by Louis"—and tears filled her eyes and her voice trembled with emotion—"but where the worshippers are the most devoted, not, mark you, where they are the most numerous; where the clouds of incense rise highest, there must my chief temple be, and to it from all quarters will the faithful flock. As it was in Greece, in Alexandria, in Rome, in northern Italy, in France, so it is now in Germany, and so it may be in the new world I long to see." Doubtless she will come, but not till the present crude organization of our medical clinics is changed, not until there is a fuller realization of internal medicine as a science as well as an art.
Endocardites infectieuses chroniques,

par M. le Professeur William Osler (d'Oxford)

On peut observer, dans d'assez diverses circonstances, une endocardite dont la fièvre est le symptôme dominant, et qui peut se prolonger durant des semaines et même des mois. Chez l'enfant, à la suite d'une fièvre rhumatismale, une endocardite peut maintenir la température élevée pendant plusieurs semaines sans autres symptômes, alors que l'état général reste bon. Dans les affections valvulaires chroniques, lorsque la lésion cesse d'être compensée, une fièvre légère, irrégulière, due à une récidive d'endocardite, peut se prolonger plusieurs mois; mais il est de règle que la durée des formes graves d'endocardite infectieuse soit moindre que trois mois. Néanmoins, certains cas ont une évolution bien plus longue, comme l'avaient vu Wilks, Bristowe, Lance-reaux et d'autres. Bristowe rapporte un cas d'une durée de cinq mois. Souvent les frissons répétés que l'on observe ont été pris pour du paludisme, d'où l'opinion que l'endocardite maligne pourrait être consécutive à la malaria. Dix cas de ce type chronique d'endocardite infectieuse sont résumés dans le tableau ci-dessous.

Le tableau clinique, dans mes dix cas, était celui d'une septiciémie chronique présentant les caractères suivants :

1). Dans tous les cas, il existait une lésion valvulaire latente, qui six fois était une séquelle du rhumatisme articulaire aigu.

2). La fièvre était le symptôme prédominant. Son invasion est parfois inaugurée par des frissons; d'ordinaire elle n'est pas élevée et son allure est du type rémittent. Des transpirations profuses s'observent souvent. Pendant plusieurs mois le malade peut n'éprouver aucun autre symptôme et se sentir assez bien pour se lever.

3). La lésion valvulaire antérieure n'est cliniquement guère ou point modifiée, et jusque vers la fin il peut n'y avoir point de symptômes du côté du cœur, les signes physiques ne présentant que fort peu de changements.
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4). Les phénomènes emboliques ne sont pas fréquents et s’observent seulement vers la fin.

5). On voit se produire, au niveau de la peau des doigts et des orteils, des taches érythémateuses douloureuses éphémères; elles sont rares sur le reste du tégument. Leur diamètre varie d’un centimètre à un centimètre et demi; elles sont rouges, papuleuses, souvent pâles en leur centre. Elles disparaissent généralement au bout de quelques heures, mais elles peuvent subsister pendant une journée entière. Elles font efflorescence par poussées, sans être jamais très abondantes. Je les ai rencontrées dans sept cas de ma série. Elles ressemblent à de petits éléments d’érythème noueux et n’ont aucune analogie ni avec les nodules rhumatismaux sous-cutanés ni avec les nodosités éphémères de Ferréol.

6). La lésion anatomique est une endocardite proliférative chronique, souvent très étendue, siégeant sur la mitrale ou la tricuspile et sur les cordages tendineux, mais possédant peu de tendances destructives. Les lésions emboliques ne sont pas suppurées.

7). Dans mes cas, comme dans ceux de Harbitz et de Lenhartz, l’hémoculture a montré que le streptocoque est le microorganisme le plus souvent en cause. Mais le staphylocoque, le pneumocoque et le gonocoque ont aussi été trouvés. L’évolution lente et chronique de la maladie est probablement en rapport avec une atténuation de virulence du germe.

8). Dans un petit nombre de cas des vaccinations antimicrobiennes ont été faites avec succès.