On the Educational Value of the Medical Society

BY

WILLIAM OSLER, M.D.

BALTIMORE, MD.

Professor of Medicine, Johns Hopkins University

Reprinted from the Boston Medical and Surgical Journal
Vol. cxlviii, No. 11, pp. 275-279, March 12, 1903
ON THE EDUCATIONAL VALUE OF THE MEDICAL SOCIETY.\(^1\)

BY WILLIAM OSLER, M.D., BALTIMORE, MD.,
Professor of Medicine, Johns Hopkins University.

As the Autocrat remarks:

"Little of all we value here
Wakes on the morn of its hundredth year."

All the more reason to honor such occasions as the present in an appropriate manner. The tribute of words that I gladly bring — and that you may take as expressing the sentiments of your brethren at large — necessarily begins with congratulations that your society has passed into the select group of those that have reached a century of existence. But congratulations must be mingled with praise of the band of noble men who, in 1803, made this gathering possible. It is true they did but follow the lead of their colleagues of Litchfield County and their own example when, in 1784, the physicians of this county organized what is now one of the oldest medical societies in the land. In the introduction to the volume of "Transactions of this Society," published in 1788, the following brief statements are made as to the objects of the organization, which may be transposed from the parent to the child, and which I quote in illustration of the character of the men and as giving in brief the chief uses of a medical society: "This society was formed on the most liberal and generous principles, and was designed first to lay a foundation for that unanimity and friendship which is essential

\(^{1}\) Remarks made on the occasion of the centennial celebration of the New Haven Medical Association, New Haven, Jan. 6, 1903.
to the dignity and usefulness of the profession; to accomplish which, they resolved, secondly, to meet once in three months; thirdly, that in all cases where counsel is requisite they will assist each other without reserve; fourthly, that all reputable practitioners in the county, who have been in the practice for one year or more, may be admitted members; fifthly, that they will communicate their observations on the air, seasons and climate, with such discoveries as they may make in physic, surgery, botany or chemistry, and deliver faithful histories of the various diseases incident to the inhabitants of this country, with the mode of treatment and event in singular cases; sixthly, to open a correspondence with the medical societies in the neighboring states and in Europe, for which purpose they have a standing committee of correspondence; seventhly, to appoint a committee for the purpose of examining candidates for the profession, and to give certificates to the deserving." Changed conditions have changed some of these objects, but in the main they hold good today.

Some of the paragraphs have suggested to me the subject of my address — the educational value of the medical society. There are many problems and difficulties in the education of a medical student, but they are not more difficult than the question of the continuous education of the general practitioner. Over the one we have some control, over the other, none. The university and the state board make it certain that the one has a minimum, at least, of professional knowledge, but who can be certain of the state of that knowledge of the other in five or ten years from the date of his graduation? The specialist may be trusted to take care of himself — the conditions of his existence demand that he shall be abreast of the times; but the family doctor, the private in our great army, the essential factor in the battle, should be
carefully nurtured by the schools and carefully guarded by the public. Humanly speaking, with him are the issues of life and death, since upon him falls the grievous responsibility in those terrible emergencies which bring darkness and despair to so many households. No class of men needs to call to mind more often the wise comment of Plato that education is a life-long business. The difficulties are partly adherent to the subject, partly have to do with the individual and his weakness. The problems of disease are more complicated and difficult than any others with which the trained mind has to grapple; the conditions in any given case may be unlike those in any other; each case, indeed, may have its own problem. Law, constantly looking back, has its forms and procedures, its precedents and practices. Once grasped, the certainties of divinity make its study a delight and its practice a pastime; but who can tell of the uncertainties of medicine as an art? The science on which it is based is accurate and definite enough; the physics of a man's circulation are the physics of the water works of the town in which he lives, but once out of gear, you cannot apply the same rules for the repair of the one as of the other. Variability is the law of life, and as no two faces are the same, so no two bodies are alike, and no two individuals react alike and behave alike under the abnormal conditions which we know as disease. This is the fundamental difficulty in the education of the physician, and one which he may never grasp, or he takes it so tenderly that it hurts instead of boldly accepting the axiom of Bishop Butler, more true of medicine than of any other profession: "Probability is the guide of life." Surrounded by people who demand certainty, and not philosopher enough to agree with Locke that "Probability supplies the defect of our knowledge and guides us when that fails and is always conner-
sant about things of which we have no certainty,” the practitioner too often gets into a habit of mind which resents the thought that opinion, not full knowledge, must be his stay and prop. There is no discredit, though there is at times much discomfort, in this everlasting perhaps with which we have to preface so much connected with the practice of our art. It is, as I said, inherent in the subject. Take in illustration an experience of last week. I saw a patient with Dr. Bolgiano who presented marked pulsation to the left of the sternum in the second, third and fourth interspaces, visible even before the night-dress was removed, a palpable impulse over the area of pulsation, flatness on percussion, accentuated heart sounds and a soft systolic bruit. When to this were added paralysis of the left recurrent laryngeal nerve, smallness of the radial pulse on the left side and tracheal tugging, there is not one of you who would not make, under such circumstances, the diagnosis of aneurism of the aorta. Few of us, indeed, would put in the perhaps, or think of it as a probability with such a combination of physical signs, and yet the associate conditions which had been present — a small primary tumor of the left lobe of the thyroid, with secondary nodules in the lymph glands of the neck and involvement of the mediastinum and metastases in the brain with optic neuritis — left no question that the tumor causing the remarkable intrathoracic combination was not aneurismal but malignant. Listen to the appropriate comment of the Father of Medicine, who twenty-five years ago had not only grasped the fundamental conception of our art as one based on observation, but had labored also through a long life to give to the profession which he loved the saving health of science—listen, I say, to the words of his famous aphorism: “Experience is fallacious and judgment difficult!” But the more serious problem relates to the edu-
cation of the practitioner after he has left the schools. The foundation may not have been laid upon which to erect an intellectual structure, and too often the man starts with a total misconception of the prolonged struggle necessary to keep the education he has, to say nothing of bettering the instruction of the schools. As the practice of medicine is not a business and can never be one, the education of the heart — the moral side of the man — must keep pace with the education of the head. Our fellow creatures cannot be dealt with as man deals in corn and coal; "the human heart by which we live" must control our professional relations. After all, the personal equation has most to do with success or failure in medicine, and in the trials of life the fire which strengthens and tempers the metal of one may soften and ruin another. In his philosophy of life the young doctor will find Rabbi Ben Ezra a better guide, with his stimulating

"Then, welcome each rebuff
That turns earth's smoothness rough,
Each sting that bids nor sit, nor stand but go!"

than Omar, whose fatalism, so seductive in Fitzgerald's verses, leaves little scope for human effort.

For better or worse, there are few occupations

2 In every age there have been Elighahs ready to give up in despair at the progress of commercialism in the profession. Garth says in 1699 (Dispensary),

"How sickening Physick hangs her pensive head
And what was once a Science, now 's a Trade."

Of medicine, many are of the opinion expressed by one of Aken- side's disputants at Tom's Coffee House, that the ancients endeav ored to make it a science and failed, and the moderns to make it a trade and have succeeded. Today the cry is louder than ever, and in truth there are grounds for alarm; but, on the other hand, we can say to these Elighahs that there are many more than 7,000 left who have not bowed the knee to this Baal, but who practice caute caste et probe.

3 See Browning's poem. A good little edition has just been issued (with an introduction by William Adams Slade) which I commend to young graduates.
of a more satisfying character than the practice of medicine, if a man can but once get orientirt and bring to it the philosophy of honest work, the philosophy which insists that we are here, not to get all we can out of the life about us, but to see how much we can add to it. The discontent and grumblings which one hears have their source in the man more often than in his environment. In the nature of the material in which we labor and of which, by the way, we are partakers, there is much that could be improved, but, as Mrs. Poyser remarks, we must accept men as the Lord made them, and not expect too much. But let me say this of the public: it is rarely responsible for the failures in the profession. Occasionally a man of superlative merit is neglected, but it is because he lacks that most essential gift, the knowledge how to use his gifts. The failure in 99% of the cases is in the man himself; he has not started right, the poor chap has not had the choice of his parents, or his education has been faulty, or he has fallen away to the worship of strange gods, Baal or Ashtoreth, or worse still, Bacchus. But after all the killing vice of the young doctor is intellectual laziness. He may have worked hard at college, but the years of probation have been his ruin. Without specific subjects upon which to work, he gets the newspaper or the novel habit, and fritters his energies upon useless literature. There is no greater test of a man's strength than to make him mark time in the "stand and wait" years. Habits of systematic reading are rare, and are becoming more rare, and five or ten years from his license, as practice begins to grow, may find the young doctor knowing less than he did when he started and without any fixed educational purpose in life.

Now here is where the medical society may step in and prove his salvation. The doctor's post-grad-
uate education comes from patients, from books and journals and from societies, which should be supplemented every five or six years by a return to a post-graduate school to get rid of an almost inevitable slovenliness in methods of work. Of his chief teachers, his patients, I cannot here speak. Each case has its lesson—a lesson that may be, but is not always, learnt, for clinical wisdom is not the equivalent of experience. A man who has seen 500 cases of pneumonia may not have the understanding of the disease which comes with an intelligent study of a score of cases, so different are knowledge and wisdom, which, as the poet truly says, "far from being one have oftentimes no connection." Nor can I speak of his books and journals, but on such an occasion as the present it seems appropriate to say a few words on the educational value of the medical society.

The first, and in some respects the most important, function is that mentioned by the wise founders of your parent society—to lay a foundation for that unity and friendship which is essential to the dignity and usefulness of the profession. Unity and friendship! How we all long for them, but how difficult to attain! Strife seems rather to be the very life of the practitioner, whose warfare is incessant against disease and against ignorance and prejudice, and, sad to have to admit, he too often lets his angry passions rise against his professional brother. The quarrels of doctors make a pretty chapter in the history of medicine. Each generation seems to have had its own. The Coans and the Cnidians, the Arabians and the Galenists, the humoralists and the solidists, the Brunonians and the Broussaisians, the homeopathists and the regulars, have, in different centuries, rent the robe of Æsculapius. But these larger quarrels are becoming less and less intense, and in the last century no new one of moment sprang up, while it is easy
to predict that in the present century, when science has fully leavened the dough of homeopathy, the great breach of our day will be healed.\textsuperscript{4} But in too many towns and smaller communities miserable factions prevail and bickerings and jealousies mar the dignity and usefulness of the profession. So far as my observation goes, the fault lies with the older men. The young fellow, if handled aright and made to feel that he is welcomed and not regarded as an intruder to be shunned, is only too ready to hold out the hand of fellowship. The society comes in here as professional cement. The meetings in a friendly social way lead to a free and open discussion of differences in a spirit that refuses to recognize differences of opinion on the non-essentials of life as a cause of personal animosity or ill feeling. An attitude of mind habitually friendly, more particularly to the young man, even though you feel him to be the David to whom your kingdom may fall, a little of the old-fashioned courtesy which makes a man shrink from wounding the feelings of a brother practitioner,—in honor preferring one another; with such a spirit abroad in the society and among its older men, there is no room for envy, hatred, malice or any uncharitable-ness. It is the confounded tales of patients that so often set us by the ears, but if a man makes it a rule never under any circumstances to believe a story told by a patient to the detriment of a fellow-practitioner,—even if he knows it to be true!—and though the measure he metes may not be measured to him again, he will have the satisfaction of knowing that he has closed the ears of his

\textsuperscript{4} As an indication of the leaven which is at work in our brethren of the homeopathic school, I may call your attention to the work on Clinical Medicine (Diagnosis), by Dr. Clarence Bartlett of the Hahnemann Medical College, Philadelphia. Accurate, thoroughly scientific and fully up to date, the students fed on such a diet will not be content with the husks of Hahnemann any more than the students of our regular schools are with the husks of Brown or Broussais, but they will practise as rational physicians, untrammeled by the shibboleth of any school.
soul to ninety-nine lies, and to have missed the hundredth truth will not hurt him. Most of the quarrels of doctors are about non-essential, miserable trifles and annoyances,—the pin pricks of practice,—which would sometimes try the patience of Job, but the good-fellowship and friendly intercourse of the medical society should reduce these to a minimum.

The well-conducted medical society should represent a clearing house, in which every physician of the district would receive his intellectual rating, and in which he could find out his professional assets and liabilities. We doctors do not "take stock" often enough, and are very apt to carry on our shelves stale, out-of-date goods. The society helps to keep a man "up to the times," and enables him to refurnish his mental shop with the latest wares. Rightly used, it may be a touch-stone to which he can bring his experiences to the test and save him from falling into the rut of a few sequences. It keeps his mind open and receptive, and counteracts that tendency to premature senility which is apt to overtake a man who lives in a routine. Upon one or two specially valuable features of the society I may dwell for a moment or two.

In a city association the demonstration of instructive specimens in morbid anatomy should form a special feature of the work. After all has been done, many cases of great obscurity in our daily rounds remain obscure, and as postmortems are few and far between, the private practitioner is at a great disadvantage, since his mistakes in diagnosis are less often corrected than are those of hospital physicians. No more instructive work is possible than carefully demonstrated specimens illustrating disturbance of function and explanatory of the clinical symptoms. It is hard in this country to have the student see enough morbid anatomy,
the aspects of which have such an important bearing upon the mental attitude of the growing doctor. For the crass therapeutic credulity, so widespread today, and upon which our manufacturing chemists wax fat, there is no more potent antidote than the healthy scepticism bred of long study in the post-mortem room. The new pathology, so fascinating and so time-absorbing, tends, I fear, to grow away from the old morbid anatomy, a training in which is of such incalculable advantage to the physician. It is a subject which one must learn in the medical school, but the time assigned is rarely sufficient to give the student a proper grasp of the subject. The younger men should be encouraged to make the exhibition of specimens part of the routine work of each meeting. Something may be learned from the most ordinary case if it is presented with the special object of illustrating the relation of disturbed function to altered structure. Of still greater educational value is the clinical side of the society. No meeting should be arranged without the presentation of patients, particularly those illustrating rare and unusual forms of disease. Many diseases of the skin and of the joints, a host of nervous affections, and many of the more remarkable of general maladies, as myxedema, cretinism, achondroplasia, etc., are seen so rarely and yet are so distinctive, requiring only to be seen to be recognized, that it is incumbent upon members to use the society to show such cases. A clinical evening devoted to these rarer affections is of very great help in diffusing valuable knowledge. The importance of a clinical demonstration was never better illustrated than at the International Congress in London in 1881, when Dr. Ord and others presented one morning at the Clinical Museum a group of cases of myxedema. There were men from all parts of the world, and the general recognition of the disease outside of England dates
from that meeting. The physiognomy of disease is learned slowly, and yet there are a great many affections which can be recognized, sometimes at a glance, more often by careful inspection, without any history. The society should be a school in which the scholars teach each other, and there is no better way than by the demonstration of the more unusual cases that happen to fall in your way. I have gone over my history cards of private patients brought or sent to me by last-year physicians, in which the disease was not diagnosed though recognisable de visu. Gout, pseudo-hypertrophic muscular paralysis, hysterical lordosis, spondylitis deformans, preataxic tabes (myosis, ptosis, etc.), Graves’ disease, Parkinson’s disease, anorexia nervosa, Raynaud’s disease, pernicious anemia, spastic diplegia, spastic hemiplegia and cyanosis of chronic emphysema were on the list. Some of these are rare diseases, but at an active society in the course of a few years every one of them could be demonstrated.

The presentation of the histories of cases may be made very instructive, but this is often a cause of much weariness and dissatisfaction. A brief oral statement of the special features of a case is much to be preferred to a long, written account. The protocol or daily record of a long case should never be given in full. The salient points should be brought out, particularly the relation the case bears to the known features of the disease and to diagnosis and treatment. The volume of the Transactions of the New Haven County Medical Society, 1788, contains many admirably reported cases. I select one for special comment, as it is, so far as I know, the first case on record of a most remarkable disease, to which much attention has been paid of late,—the hypertrophic stenosis of the pylorus in children (see full discussion in the Lancet of Dec. 20, 1902). Dr. Hezekiah Beardsley reports a Case of
Schirrhus of the Pylorus of an Infant. Every feature of the disease as we know it now is noted—the constant puking, the leanness, the wizened, old look of the child are well described, and the diagnosis was made four months before death! The postmortem showed a dilated and hypertrophied stomach and "the pylorus was invested with a hard, compact substance or schirrrosity which so completely obstructed the passage into the duodenum as to admit with the greatest difficulty the finest fluid." If other men had been as accurate and careful as Dr. Beardsley, and if other societies had followed the good example set so early by the New Haven County Medical Association, not only would this rare disease have been recognized, but by the accumulation of accurate observations many another disease would have yielded its secret. But it illustrates the old story—there is no more difficult art to acquire than the art of observation, and for some men it is quite as difficult to record an observation in brief and plain language.

In no way can a society better help in the education of its members than in maintaining for them a good library, and I am glad to know that this is one of your functions. It is most gratifying to note the growing interest in this work in all parts of the country. In the last number of the Bulletin of the Association of Medical Librarians there is a list of twenty-five societies with medical libraries. An attractive reading-room, with the important weekly journals, and with shelves stocked with the new books in different departments, becomes an educational center in which the young man can keep up his training and to which the older practitioner can go for advice when he is in despair and for reassurance, when he is in doubt. The self-sacrifice necessary to establish and maintain such a library does good to the men who take part in it; harmony is promoted, and, in the words of your fathers, the
dignity and usefulness of the profession are maintained.

Why is it that a large majority of all practitioners are not members of a medical society? Dr. Simmons estimates that there are 77,000 physicians in the United States who do not belong to any medical society whatever! In part this is due to apathy of the officers and failure to present an attractive program, but more often the fault is in the men. Perhaps given over wholly to commercialism a doctor feels it a waste of time to join a society, and so it is if he is in the profession only for the money he can get out of patients without regard to the sacred obligation to put himself in the best possible position to do the best that is known for them. More frequently, I fear, the “dollar-doctor” is a regular frequenter of the society, knowing full well how suicidal in the long run is isolation from the general body of the profession. The man who knows it all and gets nothing from the society reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the society and hear Dr. Jones on the gastric relations of neurasthenia when he can get it all so much better in the works of Einhorn or Ewald. He is weary of seeing appendices, and there are no new pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation.

Greater sympathy must be felt for the man who has started all right and has worked hard at the societies, but as the rolling years have brought ever-increasing demands on his time, the evening hours find him worn out yet not able to rest, much less to snatch a little diversion or instruction in the company of his fellows whom he loves so well. Of
all men in the profession the forty-visit-a-day man is the most to be pitied. Not always an automaton, he may sometimes by economy of words and extraordinary energy do his work well, but too often he is the one above all others who needs the refreshment of mind and re-creation that is to be had in a well-conducted society. Too often he is lost beyond all recall, and, like Ephraim joined to his idols, we may leave him alone. Many good men are ruined by success in practice, and need to pray the prayer of the Litany against the evils of prosperity. It is only too true, as you know well, that a most successful—as the term goes—doctor may practice with a clinical slovenliness that makes it impossible for that kind old friend, Dame Nature, to cover his mistakes. A well-conducted society may be of the greatest help in stimulating the practitioner to keep up habits of scientific study. It seems a shocking thing to say, but you all know it to be a fact that many, very many men in large practice never use a stethoscope, and as for a microscope, they have long forgotten what a leucocyte or a tube cast looks like. This in some cases may be fortunate, as imperfect or half knowledge might only lead to mistakes, but the secret of this neglect of means of incalculable help is the fact that he has not attained the full and enduring knowledge which should have been given to him in the medical school. It is astonishing with how little outside aid a large practice may be conducted, but it is not astonishing that in it cruel and unpardonable mistakes are made. At whose door so often lies the responsibility for death in cases of empyema but at that of the busy doctor, who has not time to make routine examinations, or who is "so driven" that the urine of his scarlet fever or puerperal patients is not examined until the storm has broken?

But I hear it sometimes said you cannot expect
the general practitioner, particularly in country districts, to use the microscope and the stethoscope — these are refinements of diagnosis. They are not! They are the essential means which can be used and should be used by every intelligent practitioner. In our miserable, antiquated system of teaching we send our graduates out wholly unprepared to make a rational diagnosis, but a man who is in earnest — and, thank heaven! most of the young men today in the profession are in earnest — can supply the defects in his education by careful study of his cases, and can supplement the deficiency by a postgraduate course. A room fitted as a small laboratory, with the necessary chemicals and a microscope, will prove a better investment in the long run than a static machine or a new-fangled air-pressure spray apparatus.

It is not in the local society only that a man can get encouragement in his day's work and a betterment of mind and methods. Every practitioner should feel a pride in belonging to his state society, and should attend the meetings whenever possible, and gradually learn to know his colleagues, and here let me direct your attention to an important movement on the part of the American Medical Association, which has for its object the organization of the profession throughout the entire country. This can be accomplished only by a uniformity in the organization of the state societies, and by making the county society the unit through which members are admitted to the state and national bodies. Those of you interested will find very instructive information on this subject in the Journal of the association in a series of papers by Dr. Simmons, the editor, which have been reprinted in pamphlet form. As now managed, with active sections conducted by good men from all parts of the country, the meeting of the National Association is in itself a sort of brief post-graduate course. Those of you
at the receptive age who attended the Saratoga meeting last June must have been impressed with the educational value of such a gathering. The Annual Museum was itself an important education in certain lines, and the papers and discussions in the various sections were of the greatest possible value. But I need say no more to this audience on the subject of medical societies; you of New England have not "forsaken the gathering of yourselves together as the manner of some is," but have been an example to the whole country.

In the dedication of his "Holy War," Thomas Fuller has some very happy and characteristic remarks on the bounden duty of a man to better his heritage of birth or fortune, and what the father found glass and made crystal, he urges the son to find crystal and make pearl. Your heritage has been most exceptional, and, I believe, from all that I know of the profession in this city and State, that could your fathers return they would say that of their crystal you had made pearl. One cannot read their history as told by Bronson, or as sketched by your distinguished citizen, my colleague, Dr. Welch, without a glow of admiration for their lofty ideals, their steadfastness and devotion, and for their faith in the profession which they loved. The times have changed, conditions of practice have altered and are altering rapidly, but when such a celebration takes us back to your origin in simpler days and ways, we find that the ideals which inspired them are ours today—ideals which are ever old, yet always fresh and new, and we can truly say in Kipling's words:

"The men bulk big on the old trail, our own trail, the out trail,
They're God's own guides on the Long Trail, the trail that is always new."
ON OBLITERATION OF THE SUPERIOR VENA CAVA.

By William Osler, M. D.,
Professor of Medicine, Johns Hopkins University.
ON OBLITERATION OF THE SUPERIOR VENA CAVA.

BY WILLIAM OSLER, M. D.,

Professor of Medicine, Johns Hopkins University.

While signs of compression of the superior vena cava are [169] not very uncommon in cases of aneurism of the aorta and in mediastinal tumors, instances of complete obliteration of the vessel, with the establishment of collateral circulation, are extremely rare. I here report one case which was under our observation for nearly three years, long enough to make the diagnosis of fibroid obliteration by exclusion, and a second in which the obliteration was due to compression in Hodgkin’s disease. A third case due to aneurism I have already reported.¹

Dr. Hume has collected for me from the literature the histories of 29 cases of complete obliteration of this vessel. Many of the reports are imperfect, and only the anatomical record is given. Of the cases 13 were males, 12 females and in 4 the sex was not specified. Eighteen of the patients were between the ages of 30 and 60. So far as the cause could be ascertained the cases could be grouped as follows: I. Thrombosis due to disease within the vein, 10 cases. Of these, 8 seem to have been due to a simple phlebitis; one, the case of Duchek, was a propagated thrombus from the periphery, and one a remarkable case of tuberculosis endophlebitis (Banti). By far the largest number of cases were due to: II. Disease outside the vein, 19 cases, grouped as follows: (a) tuberculosis, 4 cases; (b) mediastinitis, 4 cases; (c) aneurism, 4 cases; (d) syphilis, 3 cases; (e) periaortitis, 2 cases; (f) carcinoma, 1 case; (g) fibroma, 1 case.

¹Journal of the American Medical Association, June 7, 1902.
The symptoms of the condition depend entirely upon the degree to which compensatory circulation has been established. Obliteration of any one of the three great veins of the body may exist for many years with even good health and a completely effected collateral circulation. There seem to be two groups of cases, one in which the patient has had for years complete compensation and good health and the symptoms set in acutely. This was well illustrated in a case at the Montreal General Hospital, reported by Wilkins (Case 6), in which I made the dissection. The patient was a robust, hale man, aged 34, who twelve months before, while lifting, felt something give way. He had occasional attacks of dyspnœa and a smothering feeling. His urgent dyspnœa came on somewhat suddenly, and for three months he had a great deal of oppression of breathing, due in large part to recurring effusion into both pleural sacs. There was complete fibroid obliteration of the superior vena cava.

In the second group the symptoms of obstruction of the venous circulation are constantly present, though varying in intensity, as in the case here reported, and the condition may be consistent with a fair measure of health.

**Case I.**—Clinical Summary: Hard work, alcohol and exposure; dyspnœa, swelling of the neck and face; gradual distension of the superficial thoracic and epigastric veins; improvement for a time; gradual increase in the size of the superficial veins; on third admission tubercle bacilli were found; final admission with fever and delirium and unconsciousness; lumbar puncture, tubercle bacilli in exudate; tuberculous caries of spine; fibrous mediastinitis with obliteration of the superior vena cava and innominate veins; tuberculous meningitis.

Charles Diggs, colored, butcher.

First admission was on Dec. 7, 1898. The patient was at this time 22 years old. He complained of tightness across the chest, dyspnœa and swelling of the neck.

The family history was unimportant.

**Personal History.**—Patient had had no rheumatism, typhoid fever, malaria or pneumonia. He had not been sub-
ject to headache, nor had he any sensory disturbance. Venereal history; gonorrhea six times. Patient says he has had a chancre, but from the description the sore was probably chancroid, and there have been no secondary symptoms. Tobacco: patient began smoking at eight years of age, and smokes several packages of cigarettes a day. Alcohol: gin, whiskey and beer have been used abundantly, fifteen glasses of beer at least a day. He has often been drunk. He is a heavy eater. He is often exposed to the weather, and has a great deal of heavy work.

The present illness began six days before admission. The patient went to bed feeling well, and woke up with dyspnœa. He noticed that his neck was swollen, and felt as if something were pressing against his chest tightly. The pain in his chest was not definitely localized. He noticed that his face was flushed. The patient had not been drinking on the night of the first symptoms, but had been drunk the previous night. The condition had grown worse each day. He had been treated before admission with doses of nitroglycerin, 1-100 of a grain, and had been given irrigations for his urethritis. The appetite was good and his bowels were regular. He thinks he has lost ten pounds since the onset of the symptoms.

Present condition.—The patient is a strong, well-nourished mulatto. The face and eyelids are puffy. The tongue is coated with a yellowish fur. No anaemia of the mucous membranes. The neck is full; the vessels are dilated and distended with blood. Slight general pulsation of the neck. No tracheal tugging. The chest is well formed; respiratory movements equal. There is distinct tenderness on pressure in the epi-sternal notch. The right clavicle is more prominent than the left.

The lungs are clear throughout on auscultation and percussion. There is no dulness below the sternum suggestive of mediastinal growth. Superficial veins on the thorax and of the upper right arm and shoulder are dilated.

Heart not enlarged; sounds quite clear. Pulse 78 to the minute, of fair volume and tension. The right radial is slightly fuller than the left; the vessels are palpable.
Glands: The inguinal, the left epityrochlear, the posterior cervical and the submaxillary are enlarged. There is no oedema of the legs. The reflexes are apparently normal. The differential count shows a practically normal ratio of leucocytes. The X-ray picture was negative and nothing abnormal could be seen with the fluoroscope.

Two weeks after admission a slight pleuro-pericardial friction rub was noted. On December 21 the patient was discharged, distinctly improved. The veins of the neck were less distended than on admission. During the first three days he had had a slight temperature, but since that time had been practically free from fever.

The patient was admitted a second time on December 1, 1899, complaining of pain in the chest and of swelling of the face. Since leaving the hospital he had been unable to do any hard work. Every exertion would cause swelling of the face and neck. He had been "drinking and sporting" until two months before the present admission, and during these two months there had been a steady pain in his chest, sometimes extending into the arms. He had slept poorly. On examination the superficial veins were found dilated in the forearms as well, and the thoracic subcutaneous veins were found to anastomose with the superficial and deep epigastrics. The current in these thoracic veins was distinctly from above downwards. The radial pulses were equal. No thrill and no diastolic shock were observed during his stay in the hospital. The patient was discharged improved on January 2, 1900, again with a diagnosis of probably intra-thoracic tumor.

On several occasions during the spring of 1900 the patient was demonstrated to the students at the out-patient clinic. The absence of all signs of aneurism and of enlargement of the glands, the negative character of the X-ray picture, the slow course of the disease, led to the diagnosis of fibroid obliteration of the superior vena cava.

He was admitted for the third time on June 20, 1900, complaining of pain in the chest and in the right arm and of a cough. While away from the hospital he had been comfortable so long as he took care of himself. The cough had lasted three weeks and had been accompanied by much expectora-
The right radial pulse was now distinctly fuller than the left. The veins were more dilated on the right side of the thorax. The right lung was distinctly impaired. Tubercle bacilli were found on June 23. The expectoration was muco-purulent in character and very foul. There was a great deal of insomnia due to the cough. The patient insisted upon leaving the hospital on June 25. Fig. 1 shows the distension of the superficial veins.

The fourth and last admission was on February 16, 1901, when the patient came in complaining of cough which had lasted three weeks. He had been spitting blood at intervals for a year and had night sweats. His appetite was poor, and he had had a good deal of vomiting. He had also had constipation. Two days after admission tubercle bacilli were again found, and the condition of the right lung was worse than on the previous admission. His cough was racking and very severe. On February 31 he became noisy and profane and refused to keep on his clothes, and during the afternoon was found lying on the floor, and irregular convulsive movements of the extremities were noted, and the patient was apparently unconscious. The temperature rose to 102.6°. On being put to bed the patient kept making peculiar grimaces, but soon became rational and did not remember the period of unconsciousness. His speech was distinctly thick like that of a drunken man. On February 24 the patient became restless; there was marked cyanosis of the face and extraordinary injection of the conjunctivæ; there was definite nystagmus; the pupils were unequal, the left being larger; there was frothing at the mouth. The dilatation of the veins had become appreciably greater. Later in the day the cyanosis increased. Bleeding was resorted to and temporarily quieted the patient. The respirations were very stertorous throughout the day. Soon after midnight, after a violent convulsive attack, the patient became quieter and died at 1.50 a.m. on February 25.

Lumbar puncture was done at the time of death and the fluid showed leukocytes and tubercle bacilli.

Autopsy by Dr. MacCallum on February 25, 1901, nine hours after death.

Anatomical Diagnosis.—Chronic tuberculosis; tuberculous
[171] caries of spine; fibrous tissue growth in the adjacent regions, with involvement and occlusion of vena cava superior and of innominate veins; establishment of extensive collateral venous circulation; tuberculous meningitis.

The body of a young negro, 170 cm. long. Over the anterior thoracic and abdominal regions, reaching down to the inguinal regions, there are many tortuous and distended subcutaneous veins. To facilitate the dissection of the venous system hot water and then colored wax were injected into the femorals. The dissection reveals the following condition of the venous system: The right jugular and the right subclavian, much dilated, formed the right innominate, which is immediately obliterated to form a dense thick cord. The right internal mammary is obliterated at its junction with this innominate. The left internal jugular is obliterated, or partly so, in the neck. It joins the left subclavian to form again a fibrous mass which represents the innominate on the left side. The two innominates unite to form a fibrous mass which represents the superior vena cava (Fig. 2). Within the pericardium, however, this vessel is patent from the point where it receives the wide azygos vein to the heart, but it is not more than 15 mm. wide and its walls are quite thick. The azygos vein is 1 cm. in diameter, and there is no obstruction at its mouth. The anterior perforating branches of the internal mammary are very wide and connect with the long tortuous subcutaneous veins. The superficial brachial veins communicate similarly with these tortuous veins, forming a pre-pectoral anastomosis (Fig. 3). The tortuous veins communicate with the superficial and probably with the deep pectoral veins in the inguinal region. The sinuses in the cranial cavity are dilated and contain non-adherent thrombi. The left jugular vein being occluded, blood from the head must have passed out mainly by way of the right jugular, through the right subclavian, through the pre-pectoral anastomosis with the anterior perforating branches of the internal mammary and with the subcutaneous tortuous veins to the superficial epigastrics and thence to the inferior vena cava, which was normal throughout its course. An alternate course would have been from the subclavian to the upper right intercostal veins through the
perforating branches of the latter and thence to the azygos, which was very large (12 cm. in diameter). On the left the blood from the subclavian vein followed a similar course. The obliterated portions of the innominate and jugular veins lie as a firm mass of fibrous tissue firmly adherent to the spinal column. Peritoneum and pericardium normal.

Lungs: Both adherent to the pleura at the apices; bronchial glands enlarged; considerable oedema present. Many tubercles at each apex and throughout the lung. A cavity 2 cm. in diameter present in the right lung. Between the tubercles the intervening lung is scarred, but there is no pneumonia. Both lungs are adherent to the vertebral column at their upper portions.

Spleen: Substance is pale and flabby.
Liver: Near the edge there is a puckered white opaque thickening of the capsule.
Stomach, pancreas, kidneys, testes normal.
Vertebræ: Removal of the fibroid mass surrounding the innominate veins reveals an erosion of the centre of the last cervical and the first two or three thoracic vertebræ, with complete denudation of the bone. There is a focus of disease in the last cervical and first thoracic vertebral centra. These have collapsed and caused a slight scoliosis and possibly some kyphosis. The cavity thus formed extends into the spinal canal but causes no special compression of the cord. The adjacent centra are much eburnated. The fibrous tissue lying upon this cavity in the vertebræ is continuous with that about the innominate veins. There is no marked abnormality in the cranial vessels. The pia, especially in the fissure of Sylvius about the cerebellum, the base of the brain and the medulla, shows many miliary tubercles. The lateral ventricles are slightly distended with fluid. The ependyma shows a fine granulation.

Case II.—Hodgkin's Disease; Compression of Superior Vena Cava; Extensive Collateral Circulation; Formation of Phleboliths; Unusual Chronic Course; Autopsy.

M. H., aged 31, varnisher, applied at the Medical Dispensary, October 4, 1889, complaining of swelling of the neck.
and of the face. Family history is good. None of his relatives have had any glandular enlargements.

He himself has always been well and strong, with the exception of the usual diseases of childhood.

About 1884 he first noticed swelling of the glands of the neck, chiefly on the right side. It did not increase much, but shortly afterwards he noticed the glands on the left side were a little large. They, however, did not interfere with his work. Throughout the year 1887 there was a decided increase in the glandular enlargement, and about Christmas of that year the face was a good deal swollen and the veins of the face and of the arms and front of chest began to swell. He also had shortness of breath on slight exertion. Through last year and the present year this condition has persisted. The glandular enlargement has been progressive; the swelling of the veins very marked, and on exercise he gets extremely livid.

On October 4, 1889, I dictated the following note: The patient is a small, spare man; the face is greatly suffused and swollen, the conjunctiva moist and injected, and about the lips and checks there is slight lividity. The tongue also is somewhat cyanosed. The venules are prominent and the veins of the cheeks and forehead are distinct. There is great enlargement of the glands of the neck, particularly on the right side. They are firm and hard, extending on both sides of the sterno-mastoid muscles and reaching to the clavicles, the outlines of which are obliterated by the swelling. The axillary glands are not enlarged. When stripped the most striking feature is the enormous distension of the thoracic and abdominal veins. The manubrium looks prominent and the first and second interspaces near the sternum look full. Beneath the skin of the sternum and over the whole front of the thorax large veins can be seen, and on palpation there is felt a soft plexus of distended vessels. Palpation causes great pain over the manubrium and the first and second left interspaces.

On percussion there is absolute flatness on the manubrium, extending into the infra-clavicular space and as low as the nipple, where it is continuous with that of the heart. The dulness extends only about two inches from the sternal margin. The apex beat is neither visible nor palpable. Percus-
sion is clear on the right side in front and on both sides behind.

On auscultation, the heart sounds are clear, the aortic second accentuated; no murmur in aortic region or at apex. Respiration is very feeble and distant in left infra-clavicular and mammary regions. The radials are equal. There is no lividity of the hands; no enlargement of the veins; no clubbing of the fingers.

The abdomen looked full and beneath the skin there could be seen the superficial epigastric veins enormously distended; the right one almost as large as the index finger. The blood current in them is from above downwards.

The patient was placed upon Fowler's solution, minims v, to be increased. From this time until his death, 1893, that is for fully three years and a half, this patient was under our observation, and I showed him repeatedly at the clinics, and once at the Hospital Medical Society.

I will note here some of the special features in his case as dictated by me at different periods.

December 7, 1889, venous engorgement not so marked. He has had two smothering attacks at night and has had blood spitting.

January 18, 1890, he was better, the glandular enlargement was not so marked, eyes not so suffused. He has been taking Fowler's solution of arsenic up to 15 minims three times a day and has had a little diarrhoea. The swelling of the glands has distinctly lessened. He has a good appetite.

February 25, 1890, the note is: Feels very well; has improved wonderfully; scarcely any more swelling on the right side than on the left; the glands of the lower part of the neck are still enlarged, and only slightly tender. Difference in the pulses still apparent.

March 24: Glandular enlargement even smaller than before; less tender. He has had a distressing papular eruption on the face, hands and neck, which itches very much. Throughout the summer he improved a great deal and felt very much stronger.

On September 4 I dictated the following note: There is a red papular rash which itches. The swelling on the right side
of the neck is still painful to the touch. Though the swelling in the neck has diminished, the cervical glands are still enlarged; the distension of veins over the front of the chest is now enormous, extending on either side to the nipple line; the epigastriac veins are also enormously enlarged and plexiform. In some of the larger veins over the manubrium thrombi are to be felt. The large cutaneous veins extend over the right shoulder and biceps. The face is still suffused, but not nearly so much as before. The dulness persists over the manubrium and the left infra-clavicular space. Heart sounds are clear; there is no murmur; no venous hum. There is very marked difference between the breath sounds in the left and right infra-clavicular regions; in the former they are scarcely audible.

Throughout the year 1891 he was frequently under observation and there was very little change. I examined the heart repeatedly. There was never any venous hum, never any murmur. He took the Fowler's solution at intervals; towards the end of the year he had some pain in the left arm and the left side of the chest.

On April 5, 1892, I made the following note: General condition remains unchanged, though the glands of the right side of the neck are now not very much swollen. They are well marked on the left side. The sternum is perhaps more prominent, but it is difficult to say whether this is due to increase in the bone itself or to the enormous veins in the subcutaneous tissue. The skin is not abraded or reddened. The plexuses of veins already referred to is very marked. Just under the left nipple one of the larger veins contains a thrombus and higher up towards the manubrium there are several phleboliths the size of peas. The right epigastriac vein is still larger. There is a slight heaving of the whole chest with each cardiac impulse. The heart sounds are clear, aortic second not accentuated. No venous hum over the plexus. Face a little suffused; no change in the pulmonary condition.

In July the patient had a hemorrhage, stated to be from the lungs. In September he said that he had been fairly well all summer and had tried to do a little work. The face was congested and full; the glands on the right side of the neck
still considerably enlarged. The superficial epigastric veins were distinctly smaller, but there seemed to be no change in the condition in those of the sternum. Early in January I showed the patient at the clinic. The condition was practically the same, though the epigastric veins were certainly not quite so large.

The patient died in March, 1893, and an autopsy was obtained by Dr. Flexner, but under most unfavorable circumstances, and the thoracic organs had to be hurriedly examined, so that no complete dissection could be made in situ. The superior cava was completely obliterated by the enlarged mediastinal glands.

**Summary of Cases.**

(Cases from the literature of fibroid obliteration of the superior vena cava, collected by Dr. E. H. Hume.)

**A. Thrombosis due to Disease within Vein.**

1. Breschet: Traité des maladies des artères, &c., Paris 1819 (translation of Hodgson's Diseases of Arteries), No. 150; Preparation in Museum of Faculty of Medicine, Paris; a wax model made under direction of Dupuytren. Thrombosis of vena cava superior.


3. Claverie, G. E.: Thèse de Paris, 4°, 1858. Male, 52, jeweler; onset of symptoms gradual, lasting thirty years; gout three years previously; death from gangrene of foot following gout. P. M., vena cava a fibrous cord; pericardium adherent; lungs, chronic phthisis.

4. Rees: Lancet, 1860, II, 585. Female, 48; edema of upper and lower extremities. P. M., complete obliteration; thrombosis of vena cava superior, evidently phlebitis; disease evidently propagated from right auricle.

5. Rees: Guy's Hospital Reports, 1861, 3. s., VII, 113.
Female, 54; heart disease. P. M., entrance to vena cava superior obliterated by phlebitic thrombi.


(b) **Propagated Thrombus.**


(c) **Tuberculous Endophlebitis.**

10. Banti: Sperimentale, Mem. Orig., Firenze, 1891, XLV, 408. Male, 46; carpenter; death from acute miliary tuberculosis. P. M., vena cava superior a hard cylinder; a vegetative mass occupying the auricular entrance to vena cava superior; microscopically, tuberculous endophlebitis.

B. **Thrombosis due to Disease without the Vein.**

I. **Tuberculosis.**

11. Tonnélé: Jour. Hebd. de Méd., 1829, V. Male, 2; cough, diarrhoea, vomiting. P. M., complete obliteration; encysted tuberculous mass, caseous at centre, connected vertebra to vena cava superior and obliterated the latter; thrombosis of superior longitudinal sinus propagated to vena cava superior.


(12)


II. Mediastinitis (unclassified).


16. Habershon: Lancet, 1875, II, 837. Male, 37, coal-heaver. P. M., complete obliteration; chronic mediastinitis leading to fibrous transformation of vena cava superior; evidently congenital, certain valvular defects being present.


III. Aneurism.


22. Russell: Medical Times and Gazette, 1871, II, 130. Male; injury to chest three years previously. P. M., complete obliteration; vena cava superior lost in walls of sac of huge aneurism of aorta.
IV. Syphilis.

23. Willigk: Prager Vierteljahrsschrift, 1853, XXXVIII, 20. Female, 44, laborer. P. M., complete obliteraion; fibrous vena cava superior included in syphilitic scar tissue in right bronchus.

24. Duchek: Loc. cit. Female, 47. P. M., Vena cava superior obliterated and attached by fibrous scar tissue, evidently syphilitic, to right bronchus.


V. Periaortitis.


VI. Carcinoma.


VII. Fibroma.

29. Pastau: Virch. Arch., 1865, XXXIV, 236. Female, 42. P. M., fibroma pressing on innominate artery and vena cava superior; complete thrombosis of vena cava superior, with calcification of walls.
Chronic Cyanosis, with Polycythæmia and Enlarged Spleen: A New Clinical Entity.

BY

WILLIAM OSLER, M.D.,
PROFESSOR OF MEDICINE IN JOHNS HOPKINS UNIVERSITY.
CHRONIC CYANOSIS, WITH POLYCYTHÆMIA AND ENLARGED SPLEEN: A NEW CLINICAL ENTITY.

BY WILLIAM OSLER, M.D.,
PROFESSOR OF MEDICINE IN JOHNS HOPKINS UNIVERSITY.

The group of cases here reported, with those collected from the literature, are worthy of careful study, as we have here in all probability "a definite clinical entity and one which is new to medical science," to use the words of Saundby and Russell in describing their case. The condition is characterized by chronic cyanosis, polycythæmia, and moderate enlargement of the spleen. The chief symptoms have been weakness, prostration, constipation, headache, and vertigo. A further analysis will be reserved until after the consideration of the cases:

CASE I. Cyanosis for years, of unknown origin; albuminuria; rapid pulse; polycythæmia; high vascular tension.—Dr. K., aged forty-four years, consulted me October 28, 1901, complaining of a rapid pulse and diffuse cyanosis. He has been a very healthy man, active and vigorous, of good habits; has had no serious illnesses. He has been uneasy about himself, as he had detected a trace of albumin in the urine. For several years his wife has noticed that he has had a very congested appearance, and the eyes would often be deeply suffused. I have seen him at intervals for the past five years and have known him to be a very blue-faced man. He has been of a constipated habit. His eyes are somewhat prominent, but his wife says this is natural to him. He has constantly a feeling of fulness in the head, sometimes a sensation of vertigo, and for these symptoms he consulted me.

He was a well-built, well-nourished man; the face much suffused; the ears looked a little blue; the conjunctive were injected, and the lips distinctly cyanotic. The tongue also looked cyanotic. The general surface of the skin looked suffused and the anaæmia left after pressure of the hand on the skin was very marked and very slowly obliterated. The feet and hands were quite cyanosed. The radials and temporals were moderately sclerotic. Pulse 120, regular. Apex beat in fifth, just inside the nipple line; sounds clear; aortic second a little accentuated. There was no enlargement of the thyroid. No enlargement of the liver; moderate enlargement of the spleen, the edge of which was palpable. The chest was well formed, not barrel-shaped; the cervical muscles not prominent. Expansion of the chest good. No sign of emphysema. Expiration not prolonged. Once or
twice he called on cold days to show the extreme cyanosis, and twice he came in with cough, which troubled him chiefly at night.

Several careful analyses of the urine were made by Dr. Futcher. The specific gravity ranged from 1012 to 1017; albumin was constantly present, as a rule only a trace; no sugar. On centrifugalizing there were a few hyaline and finely granular casts.

I was very much puzzled as to the nature of this case, and thought that he had some chronic degeneration of the kidneys, with slight arterio-sclerosis, but I did not think it could be advanced, as there was no marked hypertrophy of the heart, and the aortic second was not specially ringing. I could not account for the cyanosis.

**Blood.** The examinations were made by Dr. Futcher. Drop from ear almost black in color; flows sluggishly. A striking feature is the slowness with which the drop spreads under the cover. With the usual-sized drop the field is found almost filled with red cells; they look natural. Another striking feature is the relative scarcity of leucocytes. Red blood corpuscles, 9,952,000; leucocytes, 4000; haemoglobin, 120 per cent. (Fleischl). No measurements of the red cells were made. Several counts were made, as it was thought that there might have been a mistake.

Two observations of the blood pressure, taken on the right arm when he had been in the sitting posture for about ten minutes, gave maximum pressure, 203 mm. Hg.; minimum pressure, 175 mm. Hg. Five minutes later the maximum pressure, 200 mm. Hg.; minimum pressure, 172 mm. Hg.

I saw this patient repeatedly during 1902. There was very little change in the condition. The cyanosis was always marked. He was able to attend to his practice. There was no shortness of breath; the heart's action became slower. I once counted it at 72, but he said that it was often at 120 per minute. The last examination of the urine, November 14th, showed only a trace of albumin and a few hyaline casts. The spleen never became much enlarged, but it was always easily palpable. He went to California and has since been under the observation of Dr. McBride.

**Case II. Recurring attacks of nausea and vomiting; remarkable cyanosis, of some years' duration; pain in side; polyarthraemia; albuminuria.**—M. C. (General Hospital Nos. 31202, 34970, 38753, 40820, 42041), aged thirty-five years, a Russian Jew; tailor by occupation; admitted for the first time on July 11, 1900, complaining of constipation.

The family history was unimportant.

**Personal History.** The patient has always been well. Since coming to this country, six years ago, he has been pressing in a tailor-shop, and has had to work standing. He denies gonorrhoea and syphilis. He uses alcohol moderately. Ever since coming to the United States the patient has been troubled with constipation, the bowels never moving more frequently than every second day. This is worse in the summer. Three years ago, during the summer, the bowels on one occasion were constipated for fourteen days. There is no pain during these attacks. For a long time he has been dark in color; he does not know for how long, but his friends have noticed it.

The patient's bowels moved eight days before admission after taking licorice powder. He had been constipated for four days previous to
that. Seven days ago the patient began to vomit after each meal. He has vomited daily since. Castor oil, Epsom salts, and licorice powder have been ineffectual. There have been no other symptoms save that of drowsiness. The patient has voided very little urine during these eight days.

On examination the patient was a well-nourished man, with marked cyanosis of the face, hands, and mucous membrane; the tongue was heavily coated.

The physical examination proved entirely negative, except for the cyanosis already noted. The temperature reached 102° shortly after admission, and fell to normal by midnight and remained so. On this day the blood count was: red blood corpuscles, 7,172,000; leucocytes, 21,800; haemoglobin, 120 per cent.; no malarial parasites found; Widal reaction negative.

On July 16th the blood count was: red blood corpuscles, 6,520,000; leucocytes, 14,400; haemoglobin, 102 per cent. The patient is feeling very much better and the bowels are moving regularly.

The patient was admitted for the second time on May 27, 1901, complaining of vomiting, which came on five days before admission. The patient admitted excessive indulgence in soda-water on the day of the illness. He states that he has vomited "every moment" since the onset, and that there has been some blood in the vomitus, which is very foul-smelling. The bowels have been constipated since the onset. He has eaten nothing for several days. There is no abdominal pain.

*May 29th.* Dr. Futterer noted that the cyanosis was still very marked, especially in the buccal mucosa, and that there was a marked pyorrhoea alveolaris. Slight tenderness in the right iliac fossa. The spleen and liver were not enlarged.

27th. The blood count gave red blood corpuscles, 8,900,000; leucocytes, 23,000; haemoglobin, 125 per cent.

28th. Vomiting continues unabated. Calomel, cerium oxalate, and lavage have been ineffectual in stopping it. Analysis of the vomitus: total acidity, 85; free HCl, 37; no lactic acid.

29th. Red blood corpuscles, 10,200,000; haemoglobin, 112 per cent.

30th. Lips very livid; the general surface of the skin, including face, trunk, and extremities suffused. The imprint of the hand disappears very slowly, and the nails are a little cyanosed.

*June 1st.* Patient's bowels were finally moved by a high enema. The blood count was as follows: Red blood corpuscles, 7,576,000; leucocytes, 30,000; haemoglobin, 115 per cent.; specific gravity (chloroform and benzol method), 1.068.

4th. The patient was discharged feeling greatly improved, the bowels having commenced to move somewhat more freely.

The patient was admitted for the third time on April 29, 1902, complaining of an attack of vomiting, hiccupping, and constipation, which began seven weeks previously. He had vomited bile several times. The attacks of vomiting have lasted for ten or twelve days at a time and recurred repeatedly. The blood count on admission was as follows: Red blood corpuscles, 7,144,000; leucocytes, 8,600; haemoglobin, 110 per cent.

On April 30th Dr. McCrea noted that the area of stomach tympany
was slightly increased; cyanosis still present; considerable pigmentation of the skin. Differential count of the leucocytes: Polymorphonuclear, 79.4 per cent.; small mononuclear, 14 per cent.; large mononuclear, 2.4 per cent.; eosinophiles, 1.8 per cent.; transitionalis, 2 per cent. A test-meal showed free HCl present; no lactic acid. On two successive days after a long fast the stomach-contents were removed and revealed a fair amount of free HCl. The blood count on May 12th was little changed.

On May 22d the patient was discharged improved, the bowels moving regularly.

The urine had a specific gravity of 1010 to 1020, with a trace of albumin and a few casts, usually hyaline, but on one admission granular.

The fourth admission was on November 7, 1902, the patient stating that he was awakened at 4 A.M., three days before admission, with a pain in the left side, followed by vomiting, which has been continuous since. No blood in the vomitus. Constipation for five days. The patient has not eaten anything since the onset and has taken very little water. There has been some hiccoughing. Blood count: Red blood corpuscles, 7,316,000; leucocytes, 12,300; haemoglobin, 112 per cent. The cyanosis is still very marked. There is some dyspnœa, vomiting, and hiccoughing. A differential count of the leucocytes shows a slight increase in the polymorphonuclears and a diminution in the small mononuclears since the previous record. The specific gravity of the blood is 1083.

November 12th. Red blood corpuscles, 8,300,000.

15th. Red blood corpuscles, 6,700,000. Coagulation time, one and a half minutes. Specific gravity, 1072.

19th. The vomiting persisted until two days ago and the vomitus showed at all times free HCl; no lactic acid; slight starch digestion. The constipation was also very obstinate until yesterday. Discharged improved.

Patient admitted for the fifth time on January 28, 1903, and for the sixth time March 11th. On both of these occasions the chief symptoms were pain in the left side and the obstinate constipation. He says that the pain brings on the vomiting. The vomitus is at first frothy and white, later greenish in color. The pain is deep below the tenth and eleventh ribs on the left side, and extends toward the posterior axillary fold. On his last admission the cyanosis was extreme, the face was almost black, and the expression very anxious. There was no albumin in the urine, but on March 30th there were a few granular casts. The blood pressure was 125; the specific gravity of the blood 1081. The bowels were freely moved; and this always gives him relief. On the last admission there was very little vomiting, yet the cyanosis was never more marked.

May 25th. Patient has been keeping very well and is at work. He complains of pain in the left side, under the ribs, and says that as he walks he keeps his hand over the sore spot. The cyanosis is marked, quite as much as at any time in the hospital. The impression of the hand on the skin of the trunk remains a long time. The spleen is not palpable; the vertical flatness is about four inches in extent. He thinks that the skin has become darker.
**Case III. (Dr. Lowman.)** *Chronic cyanosis; enlarged spleen; polycythemia; headache; increased tension; albuminuria.*—While making a visit at the Lakeside Hospital, Cleveland, with Dr. Lowman, my attention was directed to a patient who was unusually cyanosed and who had an enlarged spleen. On further examination the case was found to belong to the group under consideration. I am indebted to Dr. Darby, Dr. Lowman’s first assistant, for the notes of the case.

Female, aged forty-four years, married, of English descent, admitted to the ophthalmological division of the hospital for double pterygium, failing vision, and headache; for the latter she was transferred to the medical service. The condition of the fundi was negative, with the exception of tortuosity of the vessels.

The family history was negative.

She had had the usual infectious diseases. She had been a very healthy woman of good habits. There was no history of syphilis. She had not had winter cough or attacks of asthma. She has two children living and well. For many years, she does not know how long, she has been blue. She has had no cough, no special shortness of breath on exertion. For four years she has had headaches, which have become more intense during the past four months. They begin over the left eye and extend backward and down the neck.

On examination the patient is well nourished; the skin is dark in color, and there is a general cyanosis, particularly marked on the face, arms, and upper part of the trunk; the feet and toes are blue. Everywhere the impression made with the finger disappears slowly. The conjunctivae are suffused. The eyes are not specially prominent. There is well-marked pterygium. Looking more closely at the face there are some distended venules about the nose and cheeks. The lips are quite cyanosed, and the tongue and buccal mucous membranes have a dusky blue color. The radials are moderately sclerotic; the vessels seem full and the tension high. The apex beat of the heart cannot be felt; there is no visible pulse; no enlargement upward or to the right. The sounds are clear; the second pulmonic is accentuated. The chest is not barrel-shaped. Percussion note is clear everywhere, and there are no bronchitic râles; no prolongation of expiration.

The abdomen looks normal. On palpation the spleen is enlarged, extending 7.5 cm. below the costal margin; the anterior margin and the notch are easily felt. The upper limit of flatness is on the eighth rib. The liver is not enlarged.

**Blood.** April 13, 1903, red blood corpuscles, 11,616,000; leucocytes, 5100. Differential count: Polynuclears, 59 per cent.; lymphocytes, 32 per cent.; large mononuclears, 8 per cent.; eosinophiles, 0.5 per cent. Hæmoglobin, 120 per cent. Specific gravity, 1067. A subsequent examination made on May 8th gave the red blood corpuscles 11,692,000.

**Urine.** No excess of the daily amount; clear in color; specific gravity ranged from 1010 to 1016; reaction acid; a trace of albumin and a moderate number of hyaline and granular casts.

At my suggestion the patient was put upon sodium nitrite, and Dr. Darby writes, under date of May 8th, that the headaches have entirely disappeared.
Case IV. (Dr. Stockton.) *Chronic cyanosis; general weakness; headache, and general pains, with attacks of weakness and shortness of breath; pigmentation of skin; death; autopsy.*—When speaking of the condition with Dr. Lyon, of Buffalo, he mentioned a remarkable case of chronic cyanosis in the Buffalo Hospital under the care of Dr. Stockton, and on his return he found that there was polycythæmia. To the former I am indebted for the following notes, and to the latter for permission to use them:

J. T., a Turkish Jew, aged forty-six years, married, a shoemaker, had been admitted to various Buffalo hospitals (General, Erie County, German, etc.) for several years on different occasions, and died in the German Hospital, Friday, May 1, 1903.

His chief complaint was general weakness, chronic headache; pain in the feet and legs, made worse by walking; general diffuse pains in the abdomen, pains also over the region of the heart, moderate chronic constipation, a slight cough, and occasional attacks of shortness of breath.

For about twenty years he has had a slight cough, off and on, worse in the winter and at night. Headache has troubled him for the same period (twenty years), and indefinite pain in the chest has been felt more or less during the past twenty years. His general strength had been of exceptional vigor until about six years ago, when it began to fail. About four years ago he began to grow much darker and bluer in his skin—cyanosed. Then he began also to have pains in different parts of his body, pain and a prickling sensation in the legs and feet, pain in the right chest and right shoulder; pain in the abdomen, not localized, but diffuse and general; headache continuing. The pain in different parts of the body was not constant, but shifted from time to time.

However, the headache and the pain in the legs and abdomen were present with tolerable constancy and have continued so up to his death. The pain was described as dull and aching. In addition to the pains, he had marked weakness during the last six years of life.

Constipation was never a marked feature of the case, though the bowels were generally sluggish. The appetite was poor and capricious. He had nausea occasionally, but never vomited.

During the past four years he had been going from hospital to hospital, spending a few months at a time in each, until he felt better, then returning to his home and trying to work, but soon being required to return to a hospital because of his weakness, headache, body pains, and sometimes shortness of breath. In the hospital he would remain in bed most of the time, or sit quietly in a chair, occasionally walking slowly around the ward or going to the dining-room for his meals.

Cyanosis. The most striking feature of the case during the past four years has been a high-grade, extreme, general cyanosis, making the patient an object of general interest and curiosity in the various hospitals where he sojourned. His entire skin was dusky and bluish and his mucous membranes livid, resembling the appearance of a "blue baby" with congenital heart disease; in fact, he was jocularly called the "blue baby." This cyanosis was constant, though at times after rest in bed it improved somewhat, and again at other times was much intensified.
Pigmentation. The skin was generally dark and showed fine punctiform mottling or pigmentation, suggesting capillary extravasation as a cause, though no definite history of subcutaneous hemorrhages could be obtained. The naturally pigmented parts of the body were much more deeply pigmented than normal. The mucous membranes showed no appreciable areas of pigmentation.

Dyspnoea. During the last three years of life he had occasional attacks of increased weakness, cyanosis, and dyspnoea, his body becoming cold, so that his wife had often thought him dying. In the hospital, however, dyspnoea was seldom marked, though the respirations were generally moderately increased.

Physical Examination. A short, stocky, well-built, and well-muscled man. Cyanosis as already noted. Pigmentation as already noted.

Heart. The heart sounds were always clear and without murmur at any time, but were generally rather weak, except the second pulmonic sound, which was somewhat accentuated. The heart's area by deep percussion was slightly enlarged to the left and right. In the sixth interspace, about one and a half inches to the left of the nipple line, could be seen an area of pulsation, the chest wall dimpling inward with each systole—i.e., systolic retraction. This sign required a careful inspection to be seen.

Vessels. The arteries were soft and compressible. The veins were everywhere full and visible. There was slight throbbing of the vessels of the neck, above the clavicles, thought to be arterial.

Thorax. The lungs were everywhere hyperresonant on percussion, and the area of resonance extended downward at the bases behind somewhat, and in front on the right side the area of liver dulness did not begin until the seventh space was reached in the parasternal line. The area of resonance above the clavicles was not appreciably increased. On auscultation the breath sounds were soft and expiration was not prolonged. Occasional wheezes and sibilant rales could be heard over both lungs on different occasions during the last few months of life. (Dr. Thayer, who saw this case with Dr. Lyon, tells me that the state of the chest did not suggest to him emphysema.)

Liver. Flatness began in seventh space in parasternal line and extended vertically downward to about two inches below costal margin, where the edge could be felt.

Spleen. Never palpable, and its area on percussion was less than normal (perhaps explained by the emphysema of the lungs).

Abdomen normal.

Glands normal.

Legs. Occasionally very trifling oedema was observed over the ankles, more distinct on the left side. No oedema elsewhere was ever observed.

Eye Examination, February, 1903. Both disks hyperemic. Retina surrounding disks thickened. Vessels, particularly veins, engorged and tortuous.

Urine. An occasional trace of albumin; otherwise negative.

X-ray Examination of Thorax. Nothing abnormal except slightly enlarged heart.

Blood. The blood from the ear or finger-tip was on many occasions during the last few months of life examined and found extremely dark in color, and so thick that it would adhere to one side of thin filter
paper without penetrating it. The depth of color and darkness of the blood was far beyond the range of estimation for haemoglobin by the color scales of the various haemoglobinometers. The red corpuscles were never counted until the day of death, when they were counted at 8,250,000. Differential leucocyte count normal. Leucocytes were generally about 8300, never showing a hyperleucocytosis.

Pulse. The pulse was generally about normal, occasionally after exertion rising temporarily as high as 120 to the minute.

Temperature always normal.

Respirations. The general respiratory rate was from 22 to 25 per minute, once reaching 50 after severe exertion, with symptoms of collapse. On the afternoon of death the respirations were 38 per minute.

Death occurred on May 1, 1903, at 7 p.m., at the German Hospital in Buffalo, after three days' residence in the hospital. The patient died, without any special symptoms or discoverable complications, in collapse and after a few hours of drowsiness deepening into semiconsciousness.

The full report of the autopsy is not yet available, but Dr. Lyon writes that the heart was about normal; the lungs showed moderate emphysema, with cyanosis and oedema; the spleen was moderately enlarged. Nothing definite was found to account for the condition.

Cases from the Literature.

Case V. (Vaquez, Bulletin Médical, Paris, 1892, vi., 849.)—Male, aged forty years. For ten years extremities cyanosed; veins distended. Then palpitations, dyspepsia, bronchial catarrh. Three years ago vertigo (Ménière type); buzzing and whistling in ears; staggering and eddyin of objects; vomiting; no unconsciousness. Gums swollen, bleeding on irritation.

On examination, chronic cyanosis; no oedema. Heart: No definite auscultatory phenomenon. Blood: Red blood corpuscles, 8,900,000; leucocytes, normal.

Second admission: Paroxysmal vertigo. Attack of pain in lumbar region, ended by discharge of red blood corpuscles in urine, lasting four to six days. Liver enlarged, 20 cm. in right mammary line. Spleen 24 cm. in extent. Urine, three litres daily; same amount of fluid as ingested. Blood: Finger, 8,450,000; elbow, 8,200,000, once 9,130,000; specific gravity, 1080; haemoglobin, 165 per cent.; hyper-alkalinity of blood.

Pathology. Probable hyperactivity of haematopoietic organs, for of two cases of congenital cyanosis, one, with red blood corpuscles, 7,000,000, had a large spleen; the other, with 4,500,000, had no palpable spleen.

Case VI. (Cabot, Boston Medical and Surgical Journal, December 7, 1899.)—Female, aged forty-six years, widow, masseuse. Six years before admission she had sudden loss of consciousness, with settling of blood on one side of face and thick speech, which lasted several days. Four years later, after a period of hard work, she began to have periods of collapse, mental and muscular; face became purple, eyes injected; she was once thought to be drunk; vasomotor phenomena often present. Sciatica two weeks before admission; ecchymoses on thigh.
On examination, cyanosis of the face and tongue. Heart: No murmurs. Urine: Trace of albumin; a few hyaline casts. Blood: Red blood corpuscles, 10,460,000; leucocytes, 20,000; haemoglobin, 150 per cent. Heart apparently normal; pulse 90. No note on the spleen.

Course. Rested well in summer, but still cyanotic. Thyroid treatment had no effect. Later on, after tooth extraction, bleeding lasted half a day; made her better. Soon afterward she had attacks in which her legs began to move spontaneously, the feet moving around each other. A second attack on the train in two weeks. Soon weakness of left arm and leg, headache, vomiting. She died comatose.

Autopsy. Hemorrhage, middle meningeal; passive congestion of all the viscera.

Case VII. (Cabot, Boston Medical and Surgical Journal, March 15, 1900.)—Female, aged forty-nine years, spinster. Complaint, vertigo, weakness, bad taste, constipation. Blue line noted. Given potassium iodide and cascarale.

One year later, trace of albumin and hyaline casts in the urine. Lead detected in the blood. Blood: Haemoglobin, 120 per cent.

Father died of "consumption of blood."

Otitis media at eighteen years; several attacks of rheumatism. Menopause at forty-six years. Since then vertigo, palpitation, and headache; dizzy most of time. No tinnitus or nausea or eye symptoms. Cyanosis of lips for six months. Constipation. Four months ago three teeth drawn; then stomatitis set in. Itching at night. Polyuria.

On examination, cyanosis of face and mouth, hands and feet. Heart: Slight systolic murmur at pulmonary area. Spleen enlarged up and down. Haemoglobin, 120 per cent. In one week vertigo and cyanosis diminished. Haemoglobin, however, remained at 120 per cent. Four years later, red blood corpuscles, 12,000,000; spongy, bleeding gums; vertigo and staggering; skin bronzed. Lost twenty pounds in six years. Spleen a hand's breadth below ribs. Red blood corpuscles, 9,252,000; leucocytes, 10,600; haemoglobin, 110 per cent. After venesection, red blood corpuscles, 10,032,000; normoblasts, 5. Later spleen reached to navel; red blood corpuscles, 11,352,000. Examination of gastric contents: No free HCl.

Case VIII. (McKeen, Boston Medical and Surgical Journal, 1901, cxxiv., 610.)—Male, aged fifty-three years, German, packer in iron foundry.

Family history unimportant.

Personal History. Dyspnœa twenty years ago, eight days; recurred at intervals of six months to two years. Alcohol, beer, and whiskey used moderately.

Present Illness. One and a half years ago cyanosis of face and hands following an attack of dyspnœa. The cyanosis has persisted since, with exacerbations. Works right along; exertion causes no dyspnœa or cyanosis. Every second or third day blurring of vision, sweating, vertigo, staggering; no headache or tinnitus. When blue the hands are cold and numb. For two years frequent attacks of diarrhœa, sometimes with prolapsus recti.

On examination, no dyspnœa; respirations 18 to the minute. Cyanosis of face, hands, and feet. Fingers clubbed. Erythema on
shoulders and chest. Eyes congested. Tongue cyanotic. Gums swollen and bleeding. Many of the teeth loose. Arteries slightly thick. Heart, no murmurs. Lungs hyperresonant. Spleen one inch below rib, descending to two and a half inches on deep inspiration. X-ray showed emphysema. Urine: A trace of albumin, granular casts, red blood corpuscles, and leucocytes. Blood: Red blood corpuscles, 9,380,000 to 9,840,000; leucocytes, 9000; haemoglobin, 120 per cent.

CASE IX. (Saundby and Russell, Lancet, 1902, i., 515.)—Male, aged forty-three years, an electroplater. First visit on April 13, 1891, complaining of pains in body, especially abdomen; headache for three or four months. Spleen enlarged. Urine: Specific gravity, 1010; a trace of albumin; no casts.

Second visit on January 29, 1898, complaining of cyanosis.

Family History. Mother died of phthisis.

Personal History. Syphilis at nineteen years, gastric fever at twenty-four years, later jaundice.

Present Illness. Eight months ago pains, gnawing, in abdomen, worse in morning; no vomiting; constipation. For six weeks loss of flesh and weakness.

On examination, dull, speech thick, memory and attention poor. Cyanosis of face. Fingers clubbed. Teeth bad. Bronzing of legs. Spleen extends to middle line and navel; hard, slightly tender. Heart: No murmurs. Red blood corpuscles, 9,000,000; haemoglobin, 120 per cent. Once a few hyaline casts. He grew drowsy, jaundiced, and cyanotic. Later, red blood corpuscles, 7,360,000.


Weil (La Semaine Médicale, June 29, 1901) has a brief note on two cases of hyperglobulism, with cyanosis, lasting from birth, in two children, one aged two years, the other four years. The blood count is not given. In one the spleen was enlarged, in the other normal. No heart disease.

Analysis of the Cases.

Six of the patients were males and three females. All were in the middle period of life, the youngest thirty-five years and the oldest fifty-three years. There was nothing in the occupation or in the station of life of any moment. The features may be considered in detail.

Cyanosis. Naturally this attracts most attention and has been the feature which has led to further investigation. As is usual in all forms of cyanosis, it is most marked about the face and hands, but in Dr. Lowman's case and in both of my patients the skin of the entire body was of a dusky blue. When first seen the suffusion of the conjunctivae and the prominence of the eyes, as in Case I., may add to the startling appearance of the patient. The cyanosis is more intense in cold weather, and is aggravated by any existing bronchial catarrh. On bright, clear days, with but little moisture in the air, it may lessen
greatly, as in Case I. The period over which the cyanosis has been noticed varies from ten years (Case V.) to three or four years (Case I.). While constant, as a rule, it may vary greatly in intensity. In Case II. the patient usually came in very deeply cyanosed, the condition aggravated, no doubt, by the vomiting and the loss of liquids, but after a few days, when the bowels were moved, the color became less intense; but I saw this patient only the other day, some six weeks after his last attack of nausea and vomiting, and he was intensely cyanosed. There is no respiratory distress with the cyanosis. While the skin looks full and tense and the face and hands bloated, yet marked dilatation of the larger superficial veins is not noted. On close examination of the skin, many fine, dilated venules are seen.

Blood. The viscosity is greatly increased. All observers have remarked not only upon the unusually dark, but upon the thick and sticky character of the blood drop. An extraordinary polycythaemia is a special feature of the affection. The maximum blood count was 12,000,000 per c.mm. in Cabot’s second case. In eight of the cases the count was above 9,000,000 per c.mm., and in the ninth (Case IV.) it was 8,250,000 per c.mm. There have been no measurements of the red blood corpuscles. The statement is made that in the polycythaemia of congenital heart disease the red blood corpuscles are smaller than in that of high altitudes. The percentage of haemoglobin has been high, ranging to (in Case V.) 165. Usually the range has been from 120 to 150. In Case IV. it is stated to have been above the scale. The specific gravity of the blood in Case V. was 1080, and in Case II. it ranged from 1067 to 1083. In eight of the cases the leucocyte count ranged from 4000 in Case I. to 20,000 in Case VI. As a rule, in a majority of the cases it has been below 10,000 per c.mm. In Case II. on one admission the count reached 30,000 per c.mm.

Spleen. In seven of the nine cases the spleen was enlarged. In four of these the enlargement may be termed great, reaching nearly to the navel. In Case VI. there was no note. In Case II. it was not enlarged.

The liver was enlarged in Case V.

Urine. In seven of the cases a trace of albumin was noticed, with hyaline, sometimes granular, casts. In Cases V. and VII. there was no note on the urine. The specific gravity was usually low.

Pigmentation of the Skin. As might be expected from the prolonged existence of the cyanosis, the skin was noted to be pigmented in several of the cases (II., III., IV., VII., IX.).

Symptoms. The symptoms have been very varied. Most of the patients have complained of headache, weakness, and prostration. Headache was a prominent symptom in four cases, vertigo in four, constipation in four, pains in back and abdomen in three cases.
Attacks of nausea and vomiting were a special feature in Case II., and are mentioned as present in Case V. Cough and shortness of breath were each present in one case. Fever was not noticed in any of the cases. The pulse was noticed to be of high tension and the vessels sclerotic. There was no oedema of the skin. The torpor, mental and physical; the sensation of fulness in the head, with headache, vertigo, and in some cases nausea and vomiting, remind us of the symptoms to which mountain climbers and aeronauts are subject. Three of the cases were fatal. In Case IV. the patient died in collapse after a few hours of drowsiness. In Case VI. the patient died comatose, with cerebral hemorrhage. In Case IX. the patient became drowsy and died in coma. The autopsy in Case IV. showed the heart to be about normal, moderate emphysema of the lungs, with cyanosis and oedema and moderately enlarged spleen. In Case VI. there was passive congestion of all the viscera and hemorrhage from the middle meningeal artery. In Case IX. there was hypertrophy of the left ventricle, with congestion of the brain.

Remarks. Chronic cyanosis, a common enough feature in clinical work, is met with:

1. In organic disease of the heart, particularly in congenital malformation, in chronic myocardial and tricuspid lesions in children and adults, and in cases of adherent pericardium.

2. In certain diseases of the lungs, particularly emphysema, and in long-standing pulmonary tuberculosis of the fibroid type. Practically there are only two conditions in which patients walk into the hospital or into our consulting-rooms with extreme cyanosis, congenital heart disease, and emphysema.

3. In the methæmoglobinæmia of chronic poisoning with coal-tar products, as antipyriß and acetanilid, etc. In this condition, too, the patient may startle one by the markedly cyanotic appearance.¹

There are a good many people whose normal condition is one of great fulness of the bloodvessels of the skin, so that in cold weather there may be marked cyanosis of the ears and of the face. We all know the stout, hearty, full-blooded man with rubicund face—the type which has been well described by Clifford Allbutt in his Lane Lectures—a common one among draymen and in men of that class, who live much in the open air and who drink freely. In them cyanosis, though not necessarily present, may be very marked in the face and hands when the temperature is low. As a rule, the peripheral circulation is

¹ I am sorry I have not got a blood count in a case of this sort. As a rule, there is anaemia; in a remarkable case which I saw with Dr. T. R. Brown, the hæmoglobin was only 50 per cent. Unfortunately no count was made of the red blood corpuscles. In the case of a physician with extreme cyanosis from long-continued use of antipyriß, a blood count was made, and I remember that the red corpuscles were not above normal, but I have not the actual figures.
active and the normal condition is a vivid hyperaemia of the skin associated with dilatation of numerous small venules.

Cyanosis, local or general, indicates one fact—diminished oxygenation of the blood corpuscles. In the deepest cyanosis of the ear or of the finger-tip the blood count may not be above 5,000,000 per c.mm. Only recently Dr. Futcher examined for me the blood of a red-faced, short-breathed Englishman, whose skin seemed fairly bursting with blood and whose fingers and ears were quite cyanosed. The red blood corpuscles were only just above 5,000,000 per c.mm. In the local cyanosis of Raynaud’s disease the blood count may be very little above the normal. I have a patient at present in the wards in whom the blood count from the cyanosed foot ranges from 4,500,000 to 6,500,000; the count from the ears about 5,500,000 (Dr. Briggs). A few weeks ago, in Dr. Brayton Ball’s wards of the New York Hospital, I saw an interesting case of coma (which turned out to be due to a fracture of the skull) with the most intense localized cyanosis in the fingers of one hand, active, vivid red hyperaemia of the fingers of the other hand, and normal-looking blood distribution in the ears. The count, very kindly made for me by Dr. N. B. Foster, was practically normal and the same in all three situations. Contrariwise, the anomaly may be present (though I must say it is rare) of a red face and general superficial hyperaemia with a very low blood count. During this session there has been under my care in Ward E a patient with what we have termed anaemia rubra. With a blood count of about 2,000,000 per c.mm. from ear-tip or finger-tip, he was as red as a beet, and it was not until his blood had fallen to nearly 1,200,000 that he began to present a typical picture of pernicious anaemia. On admission, with his blood at a little above 2,000,000, and looking the healthiest patient in the ward, he had nucleated red blood corpuscles. In the cyanosis of emphysema and the ordinary forms of heart disease, the number of red blood corpuscles per cubic millimetre is not, as a rule, much increased, and rarely reaches the limit of polycythaemia, which, as suggested by Cabot, may well be placed at 7,000,000. Occasionally most extraordinary cyanosis occurs in adherent pericardium, as in a case reported by me (Archives of Pediatrics, 1896) and in the case reported by Lorrain Smith and McKisack (Transactions Pathological Society, London, 1902). In the latter the blood count was 6,000,000.

Polycythaemia. There are two classes of polyglobulism—relative, in which the condition is due to a diminution in the quantity of the plasma of the blood, and true, in which there is an actual increase in the number of blood corpuscles. Much work has been done of late years on the subject. Relative polycythaemia is very common. It may be caused by a deficient amount of fluids ingested, which possibly may be the cause of polycythaemia of the newborn; more frequently
it is caused by loss of liquids, either by (a) sweat; (b) diarrhoea (by far the most common); (c) increased diuresis. (d) In another group of cases there is loss of liquids by secretion or transudation, as in narrowing of the pylorus with dilatation of the stomach, and in the constant loss of liquids from the blood in recurring ascites. It is interesting to note that in some of these cases the polycythaemia is of a high grade and may persist for months or even for years. It is not necessarily associated with cyanosis, as in cases of dilated stomach and in diarrhoea. There is also a toxic polycythaemia described in poisoning by phosphorus and carbon monoxide, which, too, is probably relative. The polycythaemia of vasomotor disturbances, such as has been determined by Becker, Thayer, and others after the cold bath and after violent exercise, also comes in this class. Where the much-discussed polycythaemia of high altitudes should be placed is by no means certain. While a number of observers hold that there is new-formation, the lack of oxygen acting as a stimulus, others believe that it is relative, and due to increased elimination of fluids from the body, or that it is entirely due to a large number of corpuscles in the peripheral circulation. Others, again, think it is entirely due to the effects of decreased atmospheric pressure. The microcytes, poikilocytes, and nucleated red blood corpuscles point to new-formation, but the question is still under discussion.

True Polycythaemia. Vaquez and his pupil, Quiserne (thèse, Paris, 1902), limit to this class the condition in which with an increased formation there is a continued increase in the number of red blood corpuscles in the circulating blood. It is met with where there is difficulty in proper aeration of the blood, as in high altitudes, or in heart disease, congenital and otherwise; and also in the obscure cases of the form here under consideration. The polyglobulism is regarded as a mode of adaptation to the new conditions and a sort of functional reaction of the organism. Belonging to this group is the polycythaemia so readily studied in congenital heart disease, and described by Krehl, Gibson, and others. The figures often reach as high as 8,000,000 or 9,000,000, rarely so high as in the form discussed in this paper.

It is by no means easy to offer a satisfactory explanation of the polycythaemia with cyanosis here under consideration. It does not seem possible to connect it in any way with the moderate grade of enlargement of the spleen, and yet there are one or two observations in the literature which are of great interest in this connection. Rendu and Widal (Bull. et mém. Soc. méd. des hôpitaux, 1899, 3 s., xvi. 528) report the case of a policeman who had an attack of vomiting without apparent cause, with dyspnœa. The temperature was normal. Red blood corpuscles, 6,200,000; leucocytes, 6000. This count gradually
diminished. On examination, skin subicteric; cyanosis of face and hands marked, to a less degree all over the body. A tumor, evidently the spleen, reaching from diaphragm to iliac crest. Eventually ulcers developed on tongue and the liver became enlarged. Autopsy: Spleen adherent to diaphragm, fibrous on section, and filled with caseous masses.

Moutard-Martin and Lefas (Société des hôpitaux, 1899) have also reported a case of a woman, aged forty-nine years, with pain in the left hypochondriac region, emaciation, no ascites, no cyanosis, with enlarged spleen, slight albuminuria. The red blood corpuscles were 8,200,000, the leucocytes 31,428. At the autopsy the spleen weighed 750 grammes and contained large caseating nodules.

With our imperfect knowledge of the physiology of polycythæmia it would be premature to discuss at any length the pathology of this remarkable group of cases. We need:

1. A careful study of all forms of chronic cyanosis with polycythæmia, particularly those associated with heart disease and emphysema. (It is to be noted that the cases here reported have the highest blood count on record, much higher than the average in congenital heart disease or in dwellers at great altitudes.)

2. A more accurate study of the blood in this class of cases—

   the volume, the viscosity, the state of the plasma and the serum, the amount of hæmoglobin, the specific gravity, and the diameter of the corpuscles. As increased viscosity of the blood, with resulting difficulty of flow, seems the most plausible explanation of cyanosis, it is especially important to test the viscosity by accurate physical methods and to determine the relation of the number of corpuscles to the viscosity of the blood.

3. The relation of the splenomegaly to the cyanosis and polyglobulism should be carefully observed. It may not be anything more than the effect of the chronic passive congestion.

   Future investigation will determine whether we have here in reality a new disease. The clinical picture is certainly very distinctive; the symptoms, however, are somewhat indefinite, and the pathology quite obscure.
LEA'S PERIODICALS

The Medical News—Weekly.
A weekly medical newspaper is indispensable to those who would keep always posted to date on the incessant advances of practical medicine. The News answers every need. Its many departments cover all avenues of information and present a comprehensive knowledge of progress in every line. Weekly, illustrated, 2496 quarto pages of reading matter per year. Price, $4.00.

The American Journal—Monthly.
A monthly medical magazine, covering the entire science, and therefore helpful to every practitioner. Its Original Articles represent the experience of the most progressive medical men, its Reviews keep readers discriminatingly posted on the best literature, and the department of Progress is an authoritative and instructive summary of advances thoroughly digested from the leading medical periodicals of the world. Monthly, illustrated, 2304 pages of reading matter per year. Price, $5.00.

Progressive Medicine—Quarterly.
Progressive Medicine consists of original matter written by authorities in their respective departments, who give in an interesting narrative form a clear statement of the world's advances in every branch. Issued every three months it brings to the reader at frequent intervals fresh knowledge ready for application. Quarterly, illustrated, 1600 to 2000 pages per year. Price, $10.00, for the four volumes in cloth binding.

The Pocket Formulary for 1903.
The Medical News Formulary contains about 1700 prescriptions representing the latest and best therapeutics. Arranged alphabetically under headings of the various diseases for quick reference. Full annotations, directions and details. A most useful wallet-sized volume leather bound, with pocket and pencil. $1.50, net.

The Visiting List for 1903.
The Medical News Visiting List contains 32 pages of data needed by every practitioner and blanks for recording all details of practice, both clinical and financial. In four styles: Weekly, dated for 30 patients, Monthly, undated, for 120 patients per month, Perpetual, undated, for 30 patients weekly, and Sixty Patients, undated and without the preliminary data, for those requiring specially large record books. Price, $1.25. Thumb Index, 25 cents extra.

Special Combinations.
These unrivalled periodicals and practical aids and conveniences are offered in combination on reduced and easy terms. Sample reductions are given below and rates will be quoted on any other combinations on application. Orders in excess of $4.00 can be divided into convenient instalments, concerning which address the Publishers.

<table>
<thead>
<tr>
<th></th>
<th>Alone.</th>
<th>In Combination.</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Journal</td>
<td>$5.00</td>
<td>$8.00</td>
</tr>
<tr>
<td>Medical News</td>
<td>4.00</td>
<td>16.00</td>
</tr>
<tr>
<td>Progressive Medicine</td>
<td>10.00</td>
<td>16.75</td>
</tr>
<tr>
<td>Medical News Visiting List</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>Medical News Formulary</td>
<td>1.50 net,</td>
<td>17.00</td>
</tr>
</tbody>
</table>

In all $21.75 for $17.00

LEA BROTHERS & CO., Publishers,
111 FIFTH AVENUE, NEW YORK.  706, 708 & 710 SANSOM ST., PHILADELPHIA.
THE HOME IN ITS RELATION TO THE TUBERCULOSIS PROBLEM.

BY

WILLIAM OSLER, M.D.,

OF BALTIMORE, MD.,

Professor of Medicine, Johns Hopkins University.

FROM

THE MEDICAL NEWS,

NEW YORK,

DECEMBER 12, 1903.
THE HOME IN ITS RELATION TO THE TUBERCULOSIS PROBLEM.

By William Osler, M.D.,

OF BALTIMORE, MD.,

PROFESSOR OF MEDICINE, JOHNS HOPKINS UNIVERSITY.

[A lecture delivered under the auspices of the Phipps Institute, Philadelphia, December 3, 1903.]

I.

In its most important aspects the problem of tuberculosis is a home problem. In an immense proportion of all cases the scene of the drama is the home; on its stage the acts are played, whether to the happy issue of a recovery, or to the dark ending of a tragedy, so commonplace as to have dulled our appreciation of its magnitude. In more than 400 homes of this country there are lamentations and woe to-night: husbands for their wives, wives for their husbands, parents for their children, children for their parents. A mere repetition of yesterday's calamities! and if the ears of your hearts are opened you can hear, as I speak, the beating of the wings of the angels of death hastening to the 400, appointed for to-morrow. That this appalling sacrifice of life is in large part unnecessary, that it can be diminished, that there is hope even for the poor consumptive—this represents a revulsion of feeling from an attitude of oriental fatalism which is a triumph of modern medicine. Our French brethren have made the present position of the question possible. Laennec, the father of modern clinical medicine, gave us the pathology of the disease—and much more. While Galen, Frascatorius, Morton and others believed strongly in the contagiousness of phthisis, it remained for Willem in to demonstrate its infectiveness by a series of brilliant experiments which made Koch's work inevitable; while to Verneuil, Chauveau, Nocard, Brouardel and others we owe the initiation of those local and international congresses which have done so much to rend the veil of familiarity, and to educate the public and the profession to a point at which scientific knowledge has become effective. It seems a law that all great truths have to pass through a definite evolution before they reach a stage of practical utility. First the pioneers, seeing as through a glass darkly groped blindly for the truth, but worked so effectually that by the seventh decade of the nineteenth century we had a clear pathology of tuberculosis and an accurate symptomatology; while in each generation a man had not been wanting, who, like Sydenham, or George Bodington, appreciated the essentials of treatment, as we recognize them to-day. Then Willem in and Koch demonstrated the truth of the infectivity of the disease and the presence of a specific germ. Watchers on the towers, like the late Austin Flint, a lifelong student of the disease, welcomed the announcement as the much-wished-for fulfilment of a prophecy; but, as Plato shrewdly remarks, we are not all awake when the dawn appears, and many in this audience, like myself, had to see the truth grow to acceptance with the generation in which it was announced. It is a horrible thought, but very true, that we reach a stage in life, some earlier, some later, in which a new truth, a perfectly obvious truth, cannot be accepted; and the work of Willem in and of Koch fared no whit better with the seniles and the pre-seniles of the seventh and eighth decades of the last century than did Harvey's immortal discovery in his day, or for the matter of that, did Lister's great work. And now we are in the third or final stage, in which the truth is becoming an effective weapon in the hands of the profession and of the public. The present crusade against tuberculosis, which is destined to achieve results we little dream of, has three specific objects; first, educational—the instruction of the profession and the instruction of the people; second, preventive—the promotion of measures which will check the progress of the disease in the community; third, curative—the study of methods by which the progress of the disease in individuals may be arrested or healed. The three are of equal importance, and the first and the second closely related and interdependent. The educational aspects of the problem are fundamental. Nothing can be done without the intelligent cooperation of the general practitioners and of the community, and it is a wise action on the part of the Phipps Institute to take up actively this part of the work, and to spread a sound knowledge by lecture courses and by publications. It is not too much to say that could we get on the part of the doctors throughout the country an early recognition of the cases, with a practical conviction of the necessity of certain urgent and obvious measures, and on the part of the public attention to hygienic laws of the most elementary sort—could we in this way get the truth we know into the stage of practical efficiency, the problem would be in sight of solution.

Of late years there have been done in this country three pieces of work relating to tuberculosis of the first rank—that of Trudeau in the Adirondacks, enforcing on our minds the importance of the sanitarium treatment of early cases; that of Biggs and his associates in the New York Board of Health in demonstrating how much can be done by an efficient organization; and, thirdly, the work of Lawrence F. Flick, the Director of the Phipps Institute, in demonstrating by a long and laborious research the dangers of the house
in the propagation of the disease. In casting about for a subject it seemed to me most appropriate to discuss those aspects of the problem which concern the home in its relations to the disease, since after all the battlefield of tuberculosis is not in the hospitals or in the sanitoria, but in the homes, where practically the disease is born and bred.

II.

The germ of tuberculosis is ubiquitous; few reach maturity without infection; none reach old age without a focus somewhere. This is no new opinion. Gideon Harvey, in his *Morbus Anglicus* (1672, 2d Ed.), says: "It's a great chance we find, to arrive to one's grave in this English climate, without a smack of a consumption, Death's direct door to most hard students, divines, physicians, philosophers, deep lovers, zealots in religion," which is the English equivalent of the German popular saying, "Jedermann hat am Ende ein bischen Tuberkulose." This may seem an exaggerated statement, but the records of Naegeli demonstrate its truth. After all, it is only from the post-mortem table that we can get a true statement of the frequency of tuberculosis in the community. It has long been known that a very considerable percentage of persons not dying from consumption have the lesions of tuberculosis. The records have ranged in different series from 7.5 per cent. (Osler), to 38.8 per cent. (Harris). But these studies were not made directly with a view of determining the presence of tuberculosis. They were the ordinary, everyday observations of the post-mortem room. The only series which we have dealing with this question in a satisfactory way is the study of 500 post mortems in Prof. Ribbert's Institute in Zurich, by Naegeli. It is to be borne in mind that in his work special examination was made of every organ of the body, sections were made of all parts with the greatest care, and the individual lymph glands particularly inspected. Tuberculous lesions were found in 97 per cent. of the bodies of adults. He gives a very interesting curve showing the incidence at different ages. Up to the fifteenth year there was only 50 per cent., then there was a sudden rise in the eighteenth year to 96 per cent., with a slow rise, so that by the fortieth year a tuberculous focus was found in everybody. This careful research demonstrates the extraordinary susceptibility in man to tuberculous infection, and an equally extraordinary degree of resistance. In the tuberculin experiments of Franz, on healthy Austrian soldiers a reaction was shown in over 60 per cent., so that we must accept the conclusion that tuberculous infection, latent tuberculosis, is much more extensive than is the manifest disease.

One interesting point is that we are never left long in peaceful possession of a satisfactory belief about the modes of infection in tuberculosis. No sooner had the pool got quiet and we had set-
cation for the objection that in cases of this kind, where persons succumb to pulmonary phthisis, tuberculous foci pre-exist in their lungs, and that these pulmonary lesions already present developed into active consumption, owing to the adoption by those persons of a mode of life favoring tuberculosis." (British Medical Journal, Translation Oct. 17, 1903.)

We need a systematic inspection, according to Naegeli's method, of the bodies of children dead of acute diseases, so as to get, if possible, the true incidence of infection in them. Councilman and others have shown how frequently tuberculosis is present in the bodies of young children dead of diphtheria, but the statistics at our disposal certainly do not bear out this view of von Behring, which would lead us to suppose that infection was largely a matter of childhood. Naegeli's figures on this point are interesting, though he only had 88 autopsies on children. Still his results are of value, as the inspections were made with such very special care. Of these 88 children there were only 15 with tuberculous lesions. In 10 of these the tuberculosis ran a fatal course; in 4 there were advanced lesions which did not cause death, and in only 1 was there a definitely healed lesion.

Sown broadcast as they are in our modern life, it is evident that few people reach maturity without harboring the seeds of tuberculosis. That we do not all die of the disease is owing to the resistance of the tissues, in other words, to an unfavorable, i.e., the rocky soil on which the seeds have fallen. The parable of the sower sets forth in an admirable way the story of the disease. Since I used it in 1892, the illustration has become hackneyed, but in a semi-popular lecture I may be permitted to employ it again. The seed that falls by the wayside are the bacilli that reach our great highways, the air passages and intestines, in which they are picked up by the phagocytes, representing the birds of the air, or they are trodden under foot by the swarms of contending organisms. The seed that falls on stony places is that which reaches the lymph nodes of the bronchi and mesentery, and though it springs up and flourishes for a while, there is no depth of earth, and, lacking moisture, it withers away into cretaceous healing. And that which falls among thorns represents the bacilli which effect a lodgment in the lungs, the kidneys or elsewhere, where they thrive and grow and produce extensive changes, but the thorns—the equivalent of the cares of this world and the deceitfulness of riches, in the parable—grow up also, and in the form of delimiting inflammatory processes and of contracting fibrosis, choke the seed, and recovery ultimately takes place. But falling on good ground, the seed springs up, increases and brings forth fruit some thirty, some sixty and some a hundredfold, which may be taken to represent the cases of chronic, subacute and acute tuberculosis. We are beginning to appreciate that the care of the soil is quite as important as the care of the seed. We cannot re-

peat Trudeau's remarkable environment experiment in our cities, but we learn a practical lesson of the influence of fresh air, open spaces and sunlight upon infected individuals. Much has already been done in this direction, and the reduction of the mortality from tuberculosis which has been going on for the past twenty-five years has been in great part due to improved sanitation. We have only made a beginning, but to know the enemy in this case, to know that his strength lies in the homes of the poor, is more than half the battle.

Let us look at the conditions confronting us in one of the large eastern cities. Like Philadelphia, Baltimore is fortunate in the absence of big tenement houses, but, like it, too, it has the disadvantage of a large number of very narrow streets and alleys. There is no drainage system, the sewerage is collected into cesspools, while the surface water and the water from the kitchens runs off on surface drains. There is a very large foreign population and a large number of colored people. While tuberculosis is a very common disease, I do not think the mortality in Baltimore is specially high. In the report of the Board of Health for the year 1901, there were 1,274 deaths from the disease in a total mortality of 10,479, about 12 per cent.

Four years ago two ladies, interested in the disease, gave me a sum of money to use in connection with our work at the Johns Hopkins Hospital. We do not take many cases of tuberculosis into the wards. Last year there were only 53. They come chiefly for the purpose of diagnosis, and we often admit patients from outside the city on purpose to teach them for a period of a week or ten days, just how to regulate their lives. It seemed best to try to do something for our consumptive out-patients, of whom we have an average of about 200 new cases in the year. It seemed to me that a good and useful work could be done by the personal visits of an intelligent woman to the houses of these patients, that she might show them exactly how to carry out the directions of the physician and give them instructions as to the care of the sputum, the preparation of food, and when necessary to report to the Charity Organization as to the need of special diet, or to the Health Board when the surroundings were specially unsanitary. In connection with this inspection has been made of the condition under which these people live. Of the 726 cases, 545 were whites, and 181 blacks. Among the whites were 53 Russian Jews. There were 492 males, 234 females. The analysis of the reports of Miss Dutcher, Miss Blauvelt and Miss Rosenrantz during the past four years is briefly as follows:

<table>
<thead>
<tr>
<th>Russian</th>
<th>Colored</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad sanitary location</td>
<td>65%</td>
<td>35%</td>
</tr>
<tr>
<td>Insufficient light and ventilation</td>
<td>71%</td>
<td>65%</td>
</tr>
<tr>
<td>Overcrowding</td>
<td>61%</td>
<td>41%</td>
</tr>
<tr>
<td>Personal and household uncleanness</td>
<td>70%</td>
<td>50%</td>
</tr>
</tbody>
</table>

The white population in a large majority of the cases was distributed irregularly throughout the city, but a large proportion live in good local
tions, many even on new streets in the suburbs. A small percentage, about 20, live in a bad neighborhood, where the houses are close together and hemmed in in narrow alleys and courts. This region lies chiefly to the south and west of the hospital toward the harbor. In about a third of these people the personal and household cleanliness is fairly good. The colored people make up about a fourth of the cases. They live in much more unfavorable localities, chiefly in narrow, thickly populated and dirty alleys in small, two-story houses, usually old, and the windows often limited to the front—houses in which proper lighting and ventilation are impossible. One important feature in the colored population is the desire always to occupy their own houses, so that there is a comparatively little overcrowding. The Russian Jews form about one-fourteenth of the total number of patients. They live in a neighborhood that was at one time inhabited by the wealthier classes and the houses have now been converted into tenements. The streets are in many cases wide and clean and sunny. The percentage of overcrowding in the rooms is high. Very often a family of seven or eight is found in two rooms. The contrast in the matter of personal and household cleanliness between the Russians and the other whites is most striking. It is exceptional to find the former in a condition, either in person or house, that could be termed in any way cleanly. A very serious thing is the frequency with which the patients move from one place to another. The 726 patients had during their illnesses occupied 935 houses. Last year the percentage of removals was still higher. The 183 patients had occupied 379 houses. Another important point brought out was the fact that fully 66 per cent. of the patients visited did not sleep alone.

Amid such sanitary surroundings the patient can scarcely avoid contaminating the house in which he lives, while, perhaps more important still, the environment, combined with insufficient food, etc., lowers the resistance of the other members of the family and renders them more liable to active disease.

How are we to combat these conditions? First, by an educational health campaign in the homes. The young women who have been engaged in this work in Baltimore have frequently reported to me the readiness with which their suggestions have been accepted, particularly in regard to the care of the sputum. To be successful such a campaign must be carried out by the Board of Health, and a staff of trained visitors, women preferably, should do the work. To carry this out effectually there should be, secondly, in all cities a compulsory notification of cases. The plan has worked most successfully in New York, and it should be everywhere followed. There are no difficulties which cannot be readily surmounted, and there need be no hardships. Thirdly, in most cities the powers of the Health Boards should be greatly enlarged, so as to deal efficiently with the question of proper disinfection of the houses occupied by tuberculous patients. Fourthly, the question of the housing of the poor needs attention, particularly in the matter of proper control of tenements, and the regulation, by law, of the number of persons in each house. Fifthly, by placing upon the landlord the responsibility of providing, under the control of the Board of Health, a clean, wholesome house for a new tenant. Sixthly, the wholesale condemnation of unsanitary streets and blocks, and the rebuilding by the municipality, as has been done in Glasgow and elsewhere. We cannot make people clean or virtuous by act of the legislature, at the same time we cannot leave important sanitary details in the hands of irresponsible persons whose view of life is limited to returns and rentals. The extraordinary reduction in the mortality from consumption in the large cities is due directly to an improvement in environment. That much more remains to be done in the way of betterment the facts I have presented fully show.

III.

And then we have to face the all-important fact that at present an immense majority of all tuberculous patients have to be treated at home. Probably not 2 per cent. of the cases can take advantage of sanitarium or climatic treatment. What has the new knowledge to say to the 98 per cent., which is barred from the enjoyment of these two great adjutantes vitae? Very much! Read ariight, a message of hope to many. Just as we have learned that climate in itself is not the prime essential, but a method of life in any clime, so we have found that even under the most unfavorable surroundings many cases recover in town and country, if rigid system and routine are enforced. But “Hope, that comes to all, “ as the poet sings, comes, not to the large proportion of the unhappy victims in our overcrowded and crowded cities. What but feelings of despair can fill the mind in the contemplation of facts such as I have laid before you in the analysis of our inspection in Baltimore? So numerous are the patients that private beneficence shrinks at a task, which the city and State authorities have not yet mustered courage to attack, except in one or two places. Hospital care for advanced cases, sanitarium treatment for incipient cases can only be provided by an enormous expenditure, but we must not be discouraged, and the good work begun in Massachusetts, New York and in this State will grow and prosper. After all, the campaign in which we are engaged is one of education: only let us not forget that teaching has not all been on the side of the profession. We have all been at school during the past quarter of a century, and at school we must remain, at once teachers and pupils, if we are to make the knowledge we possess effective. We are not living in Utopia, and in the matter of sanitation the man on the street is a blundering, helpless creature whose lessons are put bodily into him at a heavy cost of life and health. You know this story only too well in Philadelphia. To provide accommo-
OSLER: HOME AND THE TUBERCULOSIS PROBLEM.

...tion for all consumptives is impossible, but it is not unreasonable to look forward to the day when every large city will have a sanitarium for the treatment of the early cases, situated not far from its outskirts, with all the equipment for open-air treatment. Let there be some place at least where a poor workingman or working woman may have a chance for life. Now, as we doctors know only too well, hundreds are sacrificed in whom the disease could have been arrested. The hospital care of the very sick should be provided for in special wards of the city hospitals. To give the best of care to these unhappy victims is a true charity to them; to place them where they cease to be a danger to the general health is a true charity to others.

In the warfare against tuberculosis the man behind the gun is the general practitioner. The battle cannot be won unless he takes an active, aggressive, accurate part. That he is not always alert must be attributed in part to the carelessness which a routine life readily engenders, and partly to a failure to grasp the situation in individual cases. The two points to be impressed upon him are first, that early recognition of the disease can only come from better methods of practice and greater attention to the art of diagnosis. The insidiousness of the onset, the protean modes of advance, and the masked features of even serious cases should never be forgotten. As Garth so well puts it in his Dispensary (1699):

"Whilst meagre Phthisis gives a silent blow; 
Her strokes are sure; but her advances slow. 
No loud alarms, nor fierce assaults are shown. 
She-starves the fortress first, then takes the town."

Too often precious time is wasted and the golden opportunity is lost by the failure of the physician to make a thorough examination of the chest. I am every day impressed with the necessity of more rigid, routine examination, even of the "ordinary case." In illustration of the carelessness which is so readily acquiesced in, let me mention a patient who was brought to me only a few weeks ago, supposed to have a protracted fever after typhoid. Her father, a physician, her husband a physician, and it is scarcely credible that neither of them had the faintest idea that the poor soul had advanced consumption, though it had reached a stage in which there was shrinkage of one side of the chest, and the diagnosis could almost be made by inspection alone. The carelessness is a sort of mental inadverance, to which even the best of us at times seem liable. A very distinguished and careful physician brought his daughter to me a few years ago to have her blood examined, as he felt sure she had a chronic malaria. She had little or no cough, but an afternoon rise of temperature, and it turned out to be the usual story—quite pronounced local disease at her left apex. There had not been a suspicion on the part of her father or of the family.

On the other hand, we must be careful not to diagnose tuberculosis too readily. The physicians of our sanitarium have a good many tales to tell in this matter.

The second point is the necessity for a more masterful management of the early cases. Here comes in that personal equation so important in practice, and which has such a vital bearing in the prognosis of the disease. The dead hand of the Arabian still presses sore upon our practice, and precious weeks are too often lost in trusting to a polyparmacy which in some instances would make the heart of Avicenna or Averroes to rejoice. It may seem hard to say so, but my firm conviction is that more tuberculous patients are injured than helped by drugs. We have not yet come to the belief—to the practical belief, at any rate—that the disease is not to be treated by them. After so much has been written and spoken, one would suppose that the essential features of the treatment of the disease were generally recognized, but the practical experience of any man who sees a great deal of tuberculosis is directly to the contrary. It is not so much that the drugs do harm per se, but that weeks of priceless value are lost in trying to check a cough and quiet a fever in a patient who is allowed to continue his work and is up and about. I cannot agree with a recent writer who says that the tendency at present is rather to make too little than too much of medicinal treatment. Perhaps in advanced cases we are more sparing, but in early stages I know that we are still leaning on the Egyptian reed in which our fathers trusted and trusted in vain. Year by year I see only too many instances in which the mental attitude of the physician toward the disease clearly indicates that the idea of an efficient home treatment by fresh air had never been entertained. What I would like to plead for most earnestly is this home treatment of early cases by modern methods. I am not addressing myself now to city physicians. But I would appeal to the practitioners in the country and in the smaller towns and in the suburbs, where the conditions are so much more favorable. I have been much interested for several years past in a group of cases scattered all over the country, usually in the farmer or mechanic class, in which I have supervised with the physician a home treatment, often with striking success. The remarkable case which I reported in 1900 gave me great encouragement, as the complete arrest of the disease was accomplished under the most primitive surroundings by the persistence and devotion of the patient herself, who richly deserves the good health she enjoys to-day. There have been disappointments; all cases are not suitable, all cases are not curable, and it is not easy to say which ones are likely to do well. The most favorable looking patient with a small patch at one apex may have a progressive disease and die in the best of surroundings, while a case with high fever, sweats and an extensive lesion may improve rapidly. On November 24, a fine, stalwart fellow came to see me, in whom I did not recognize the poitrinaire, of September 28, carrying his diagnosis in his.
face. The sunshine and open air of a Maryland village had been enough; enough, at any rate, to put him on the high road.

Let me mention in a few words the essentials in this home treatment of consumption in the small towns, country places and the suburbs of our large cities. First, the confidence of the patient, since confidence breeds hope; secondly, a masterful management on the part of the doctor; thirdly, persistence—benefit is usually a matter of months, complete arrest a matter of years, absolute cure a matter of many years; fourthly, sunshine by day; fresh air night and day; fifthly, rest while there is fever; sixthly, breadstuffs and milk, meat and eggs.

Let us not forget that it was a country practitioner, George Bodington, of the little town of Sutton Coldfield, in Warwickshire, who, in 1840, revived the open air treatment of tuberculosis. "To live in and breathe freely the open air, without being deterred by the wind or weather, is one important and essential remedy in arresting its progress—one about which there appears to have generally prevailed a groundless alarm lest the consumptive should take cold." And he gives a number of cases showing the good effects of the open air treatment. He seems to have carried it out on the plan which was so strongly advocated by Sydenham, which was a combination of open air and riding or carriage exercise. There are few things more striking in the writings of Sydenham than the insistence with which he states that consumption is curable. It is worth quoting a paragraph which I take from Locke’s Anecdota Sydenhamiana, as it is put in a more striking way than in his general work. "I am sure that if any physician had a remedy for the cure of a phthisis of equal force with this of riding he might easily get what wealth he pleased: In a word, I have put very many upon this exercise in order to the cure of consumptions, and I can truly say I have missed the cure of very few; in so much that I think how fatal soever this disease be above all others, and how common soever; (for almost two-thirds that die of chronic diseases die of a phthisis), yet it is this way more certainly cured than most diseases of less moment: Provided always that this travelling be long persisted in according to the age of the patient, and length of the disease. ... Women or very weak men that cannot ride on horseback may ride in a coach and yet attain the same end, as I have seen by often experience." In reality this practice of Sydenham never died out, but it was in practice in New England in the early days and throughout the eighteenth century. The late Henry I. Bowditch, who did so much to further the study of tuberculosis in this country, states that he followed it in his own case.

Let me conclude with a quotation from De Quincy, which puts in graphic language the question which so many generations have asked and asked in vain, but which we have been permitted to answer in part at any rate, and to answer in hope. "If you walk through a forest at certain seasons, you will see what is called a blaze of white paint upon certain élite of the trees marked out by the forester as ripe for the axe. Such a blaze, if the shadowy world could reveal its futurities, would be seen everywhere distributing its secret badges of cognizance amongst our youthful men and women. Of those that, in the expression of Pericles, constitute the vernal section of our population, what a multitudinous crowd would be seen to wear upon their foreheads the same sad ghastly blaze, or some equivalent symbol of dedication to an early grave. How appalling in its amount is this annual slaughter among those that should by birthright be specially the children of hope, and levied impartially from every rank of society! Is the income-tax or the poor-rate, faithful as each is to its regulating time-tables, paid by any class with as much punctuality as this premature florilegium, this gathering and rendering up of blighted blossoms by all classes? Then comes the startling question—that pierces the breaking hearts of so many thousand afflicted relatives: "Is there no remedy? Is there no palliation of the evil?" It is one of the greatest triumphs of scientific medicine to be able to reply, Yes, the evil may be palliated and is rapidly being lessened, and for many at least, a remedy has been found.
Unity, Peace, and Concord

A FAREWELL ADDRESS TO THE MEDICAL PROFESSION OF THE UNITED STATES

BY

WILLIAM OSLER, M.D., F.R.S.
REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD

OXFORD
HORACE HART, PRINTER TO THE UNIVERSITY
Unity, Peace, and Concord
Unity, Peace, and Concord

A FAREWELL ADDRESS TO THE MEDICAL PROFESSION OF THE UNITED STATES

BY

WILLIAM OSLER, M.D., F.R.S.
REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD

OXFORD
HORACE HART, PRINTER TO THE UNIVERSITY
UNITY, PEACE, AND CONCORD

On this occasion I have had no difficulty in selecting a subject on which to address you. Surely the hour is not for the head but for the heart, out of the abundance of which I may be able to express, however feebly, my gratitude for the many kindnesses I have received from the profession of this country during the past twenty-one years, and from you, my dear colleagues of this state and city, during the sixteen years I have dwelt among you. Truly I can say that I have lived my life in our beloved profession—perhaps too much! but whatever success I have had has come directly through it, and my devotion is only natural. Few men have had more from their colleagues than has fallen to my lot.

As an untried young man my appointment at McGill College came directly through friends in the faculty who had confidence in me as a student. In the ten happy years I lived in Montreal I saw few but physicians and students, among whom I was satisfied to work—and to play. In Philadelphia the hospitals and the societies absorbed the greater part of my time, and I lived the peaceful life of a student with students. An ever-widening circle of friends in the profession brought me into closer contact with the public, but I have never departed from my ambition to be first of all a servant of my brethren, willing and anxious to do anything in my power to help them. Of my life here you all know I have studied to be quiet and to do my own business and to walk honestly toward them that are without; and one of my chief pleasures has been to work
among you as a friend, sharing actively in your manifold labours. But when to the sessions of sweet, silent thought I summon up the past, not what I have done, but the many things I have left undone, the opportunities I have neglected, the battles I have shirked, the precious hours I have wasted—these rise up in judgment.

A notable period it has been in our history through which we have lived, a period of reconstruction and renovation, a true renaissance, not only an extraordinary revival of learning, but a complete transformation in our educational methods; and I take pride in the thought that, in Philadelphia and in Baltimore, I have had the good fortune to be closely associated with men who have been zealous in the promotion of great reforms, the full value of which we are too close to the events to appreciate. On the far-reaching influence of these changes time will not permit us to dwell. I propose to consider another aspect of our work of equal importance, neither scientific nor educational, but what may be called humanistic, as it deals with our mutual relations and with the public.

Nothing in life is more glaring than the contrast between possibilities and actualities, between the ideal and the real. By the ordinary mortal, idealists are regarded as vague dreamers, striving after the impossible; but in the history of the world how often have they gradually moulded to their will conditions the most adverse and hopeless! They alone furnish the Geist that finally animates the entire body and makes possible reforms and even resolutions. Imponderable, impalpable, more often part of the moral than of the intellectual equipment, are the subtle qualities so hard to define, yet so potent in everyday life, by which these fervent
souls keep alive in us the reality of the ideal. Even in a lost cause, with aspirations utterly futile, they refuse to acknowledge defeat, and, still nursing an unquenchable hope, send up the prayer of faith in face of a scoffing world. Most characteristic of aspirations of this class is the petition of the Litany in which we pray that to the nations may be given ‘unity, peace, and concord.’ Century after century from the altars of Christendom this most beautiful of all prayers has risen from lips of men and women, from the loyal souls who have refused to recognize its hopelessness, with the war-drums ever sounding in their ears. The desire for unity, the wish for peace, the longing for concord, deeply implanted in the human heart, have stirred the most powerful emotions of the race, and have been responsible for some of its noblest actions. It is but a sentiment, you may say: but is not the world ruled by feeling and by passion? What but a strong sentiment baptized this nation in blood; and what but sentiment, the deep-rooted affection for country which is so firmly implanted in the hearts of all Americans, gives to these states to-day unity, peace, and concord? As with the nations at large, so with the nation in particular; as with people, so with individuals; and as with our profession, so with its members, this fine old prayer for unity, peace, and concord, if in our hearts as well as on our lips, may help us to realize its aspirations. What some of its lessons may be to us will be the subject of my address.

UNITY

Medicine is the only world-wide profession, following everywhere the same methods, actuated by the same ambitions, and pursuing the same ends. This homo-
geneity, its most characteristic feature, is not shared by the law, and not by the Church, certainly not in the same degree. While in antiquity the law rivals medicine, there is not in it that extraordinary solidarity which makes the physician at home in any country, in any place where two or three sons of men are gathered together. Similar in its high aims and in the devotion of its officers, the Christian Church, widespread as it is, and saturated with the humanitarian instincts of its Founder, yet lacks that catholicity—

*urbi et orbi*—which enables the physician to practise the same art amid the same surroundings in every country of the earth. There is a unity, too, in its aims—the prevention of diseases by discovering their causes, and the cure and relief of sickness and suffering. In a little more than a century a united profession, working in many lands, has done more for the race than has ever before been accomplished by any other body of men. So great have been these gifts that we have almost lost our appreciation of them. Vaccination, sanitation, anaesthesia, antiseptic surgery, the new science of bacteriology, and the new art in therapeutics have effected a revolution in our civilization to which can be compared only the extraordinary progress in the mechanical arts. Over the latter there is this supreme advantage, it is domestic—a bedroom revolution, which sooner or later touches each one of us, if not in person, in those near and dear—a revolution which for the first time in the history of poor, suffering humanity brings us appreciably closer to that promised day when the former things should pass away, when there should be no more unnecessary death, when sorrow and crying should be no more, and there should not be any more pain.

One often hears as a reproach that more has been
done in the prevention than in the cure of disease. It is true; but this second part of our labours has also made enormous progress. We recognize to-day the limitations of the art; we know better the diseases curable by medicine, and those which yield to exercise and fresh air; we have learned to realize the intricacy of the processes of disease, and have refused to deceive ourselves with half-knowledge, preferring to wait for the day instead of groping blindly in the dark or losing our way in the twilight. The list of diseases which we can positively cure is an ever-increasing one, the number of diseases the course of which we can modify favourably is a growing one, the number of incurable diseases (which is large, and which will probably always be large) is diminishing—so that in this second point we may feel that not only is the work already done of the greatest importance, but that we are on the right path, and year by year as we know disease better we shall be able to treat it more successfully. The united efforts of countless workers in many lands have won these greatest victories of science. Only by ceaseless co-operation and the intelligent appreciation by all of the results obtained in each department has the present remarkable position been reached. Within a week or ten days a great discovery in any part of the world is known everywhere, and, while in a certain sense we speak of German, French, English, and American medicine, the differences are trifling in comparison with the general similarity. The special workers know each other and are familiar with each other's studies in a way that is truly remarkable. And the knowledge gained by the one, or the special technic he may devise, or the instrument he may invent is at the immediate disposal of all. A new life-saving operation of the first class devised by a surgeon
in Breslau would be performed here the following week. A discovery in practical medicine is common property with the next issue of the weekly journals.

A powerful stimulus in promoting this wide organic unity is our great international gatherings—not so much the International Congress of the profession, which has proved rather an unwieldy body, but of the special societies which are rapidly denationalizing science. In nearly every civilized country medical men have united in great associations which look after their interests and promote scientific work. It should be a source of special pride to American physicians to feel that the national association of this country—the American Medical Association—has become one of the largest and most influential bodies of the kind in the world. We cannot be too grateful to men who have controlled its course during the past ten years. The reorganization so efficiently carried out has necessitated a readjustment of the machinery of the state societies, and it is satisfactory to know that this meeting of our state society, the first held under the new conditions, has proved so satisfactory. But in the whole scheme of readjustment nothing commands our sympathy and co-operation more than the making of the country societies, the materials out of which the state and national associations are built. It is not easy at first to work out such a scheme in full detail, and I would ask of the members of this body not only their co-operation, but an expectant consideration, if the plan at first does not work as smoothly as could be desired. On the county members I would urge the support of a plan conceived on broad national lines—on you its success depends, and to you its benefits will chiefly come.

Linked together by the strong bonds of community
of interests, the profession of medicine forms a remarkable world-unit, in the progressive evolution of which there is a fuller hope for humanity than in any other direction.

Concentration, fusion, and consolidation are welding together various subunits in each nation. Much has been done, much remains to do; and to three desiderata I may refer briefly.

In this country reciprocity between the state licensing boards remains one of the most urgent local needs. Given similar requirements, and examinations practically of the same character, with evidence of good character, the state board should be given power to register a man on payment of the usual fee. It is preposterous to restrict in his own country, as is now done, a physician's liberty. Take a case in point: A few months ago a man who is registered in three states, an able, capable practitioner of twenty years' standing, a hard student in his profession, a physician who has had charge of some of the most important lives of this country, had to undergo another examination for licence. What an anomaly! What a reflection on a united profession! I would urge you all most strongly to support the movement now in progress to place reciprocity on a proper basis. International reciprocity is another question of equal importance, but surrounded with greater difficulties; and, though a long way off, it will come within this century.

The second urgent need is a consolidation of many of our medical schools. Within the past twenty-five years conditions have so changed that the tax on the men in charge of the unendowed schools has become ever more burdensome. In the old days of a faculty with seven professors, a school with 300 students was
a good property, paying large salaries, but the introduction of laboratory and practical teaching has so increased the expenses that very little is now left for distribution at the end of the year. The students' fees have not increased proportionately, and only the self-sacrifice and devotion of men who ungrudgingly give their time, and often their means, save a hopeless situation. A fusion of the schools is the natural solution of the problem. Take a concrete example: A union of three of the medical schools of this city would enable the scientific departments to be consolidated at an enormous saving of expense and with a corresponding increase in efficiency. Anatomy, physiology, pathology, physiologic chemistry, bacteriology, and pharmacology could be taught in separately organized departments which the funds of the united school could support liberally. Such a school could appeal to the public for aid to build and endow suitable laboratories. The clinical work could be carried on at the separate hospitals, which would afford unequalled facilities for the scientific study of disease. Not only in this city, but in Richmond, in Nashville, in Columbus, in Indianapolis, and in many cities a 'merger' is needed. Even the larger schools of the larger cities could 'pool' their scientific interests to the great advantage of the profession.

And the third desideratum is the recognition by our homoeopathic brethren that the door is open. It is too late in this day of scientific medicine to prattle of such antique nonsense as is indicated in the 'pathies.' We have long got past the stage when any 'system' can satisfy a rational practitioner, long past the time when a difference of belief in the action of drugs—the most uncertain element in our art!—should be allowed to separate men with the same noble traditions, the same
hopes, the same aims and ambitions. It is not as if our homoeopathic brothers are asleep; far from it, they are awake—many of them at any rate—to the importance of the scientific study of disease, and all of them must realize the anomaly of their position. It is distressing to think that so many good men live isolated, in a measure, from the great body of the profession. The original grievous mistake was ours—to quarrel with our brothers over infinitesimals was a most unwise and stupid thing to do. That we quarrel with them now is solely on account of the old Shibboleth under which they practise. Homoeopathy is as inconsistent with the new medicine as is the old-fashioned polypharmacy, to destruction of which it contributed so much. The rent in the robe of Aesculapius, wider in this country than elsewhere, could be repaired by mutual concessions—on the one hand by the abandonment of special designations, and on the other by an intelligent toleration of therapeutic vagaries which in all ages have beset the profession, but which have been mere flies on the wheels of progress.

Many seek peace, few pursue it actively, and among these few we, alas! are not often to be found. In one sense every one of us may be asked the question which Jehu returned to Joram: ‘What hast thou to do with peace?’ since our life must be a perpetual warfare, dominated by the fighting spirit. The physician, like the Christian, has three great foes—ignorance, which is sin; apathy, which is the world; and vice, which is the devil. There is a delightful Arabian proverb, two lines of which run: ‘He that knows not, and knows not that
he knows not, is a fool. Shun him. He that knows not, and knows that he knows not, is simple. Teach him.

To a large extent these two classes represent the people with whom we have to deal. Teaching the simple and suffering the fools gladly, we must fight the wilful ignorance of the one and the helpless ignorance of the other, not with the sword of righteous indignation, but with the skillful weapon of the tongue. On this ignorance the charlatan and the quack live, and it is by no means an easy matter to decide how best to conduct a warfare against these wily foes, the oldest and most formidable with whom we have to deal. As the incomparable Fuller remarks: 'Well did the poets feign Aesculapius and Circe brother and sister,... for in all times (in the opinion of the multitude) witches, old women, and impostors have had a competition with doctors.'

Education of the public of a much more systematic and active kind is needed. The congress on quackery which is announced to take place in Paris, with some twenty-five subjects for discussion, indicates one important method of dealing with the problem. The remarkable exhibit held last year in Germany of everything relating to quacks and charlatans did an immense good in calling attention to the colossal nature of the evil. A permanent museum of this sort might well be organized in Washington in connexion with the Department of Hygiene. It might be worth while to imitate our German brethren in a special national exhibit, though I dare say many of the most notorious sinners would apply for large space, not willing to miss the opportunity for a free advertisement! One effective measure is enforced in Germany: any proprietary medicine sold to the public must be submitted to a government analyst, who prepares a statement (as to its composition, the price
of its ingredients, &c.), which is published at the cost of the owner of the supposed remedy in a certain number of the daily and weekly papers.

By far the most dangerous foe we have to fight is apathy—indifference from whatever cause, not from a lack of knowledge, but from carelessness, from absorption in other pursuits, from a contempt bred of self-satisfaction. Fully 25 per cent. of the deaths in the community are due to this accursed apathy, fostering a human inefficiency, and going far to counterbalance the extraordinary achievements of the past century. Why should we take pride in the wonderful railway system with which enterprise and energy have traversed the land, when the supreme law, the public health, is neglected? What comfort in the thought of a people enjoying great material prosperity when we know that the primary elements of life (on which even the old Romans were our masters) are denied to them? What consolation does the ‘little red school-house’ afford when we know that a Lethanean apathy allows toll to be taken of every class, from the little tots to the youths and maidens? Western civilization has been born of knowledge, of knowledge won by hard, honest sweat of body and brain, but in many of the most important relations of life we have failed to make that knowledge effective. And, strange irony of life, the lesson of human efficiency is being taught us by one of the little nations of the earth, which has so far bettered our instruction that we must again turn eastward for wisdom. Perhaps in a few years our civilization may be put on trial, and it will not be without benefit if it arouses the individual from apathy and makes him conscious of the great truth that only by earnest individual human effort can knowledge be made effective, and if it arouses com-
unities from an apathy which permits mediaeval conditions to prevail without a protest.

Against our third great foe—vice in all its forms—we have to wage an incessant warfare, which is not less vigorous because of the quiet, silent kind. Better than any one else the physician can say the word in season to the immoral, to the intemperate, to the uncharitable in word and deed. Personal impurity is the evil against which we can do most good, particularly to the young, by showing the possibility of the pure life and the dangers of immorality. Had I time, and were this the proper occasion, I would like to rouse the profession to a sense of its responsibility toward the social evil—the black plague which devastates the land. I can but call your attention to an important society, of which Dr. Prince Morrow of New York is the organizer, which has for one of its objects the education of the public on this important question. I would urge you to join in a crusade quite as important as that in which we are engaged against tuberculosis.

CONCORD

Unity promotes concord—community of interests, the same aims, the same objects give, if anything can, a feeling of comradeship, and the active co-operation of many men, while it favours friction, lessens the chances of misunderstanding and ill will. One of the most gratifying features of our professional life is the good feeling which prevails between the various sections of the country. I do not see how it could be otherwise. One has only to visit different parts and mingle with the men to appreciate that everywhere good work is being done, everywhere an earnest desire to elevate the
standard of education, and everywhere the same self-sacrificing devotion on the part of the general practitioner. Men will tell you that commercialism is rife, that the charlatan and the humbug were never so much in evidence, and that in our ethical standards there has been a steady declension. These are the Elijahs who are always ready to pour out their complaints, mourning that they are not better than their fathers. Few men have had more favourable opportunities than I have had to gauge the actual conditions in professional private life, in the schools, and in the medical societies, and as I have seen them in the past twenty years I am filled with thankfulness for the present and with hope for the future. The little rift within the lute is the absence in many places of that cordial professional harmony which should exist among us. In the larger cities professional jealousies are dying out. Read Charles Caldwell’s Autobiography if you wish for spicy details of the quarrels of the doctors in the first half of the last century in this country. I am sorry to say the professors have often been the worst offenders, and the rivalry between medical schools has not always been friendly and courteous. That it still prevails to some extent must be acknowledged, but it is dying out, though not so rapidly as we could wish. It makes a very bad impression on the public, and is often a serious stumbling-block in the way of progress. Only the other day I had a letter from a most intelligent and appreciative layman who was interested in a large hospital scheme about which I had been consulted. I quote this sentence from it in sorrow, and I do so because it is written by a strong personal friend of the profession, a man who has had long and varied experience with us: ‘I may say to you that one of the distressing bewilderments of the layman
who only desires the working out of a broad plan is the extraordinary bitterness of professional jealousy between not only schoolmen and non-schoolmen, but between schoolmen themselves, and the reflections which are cast on one another as belonging to that clique, which makes it exceedingly difficult for the layman to understand what way there is out of these squabbles.'

The national and special societies, and particularly the American Medical Association, have brought men together and have taught them to know each other and to appreciate the good points which at home may have been overlooked. As Dr. Brush said yesterday in his address, it is in the smaller towns and country districts that the conditions are most favourable for mutual misunderstandings. Only those of us who have been brought up in such surroundings can appreciate how hard it is for physicians to keep on good terms with each other. The practice of medicine calls equally for the exercise of the heart and the head; and when a man has done his best, to have his motives misunderstood and his conduct of a case harshly criticized, not only by the family, but by a colleague who has been called in, small wonder, when the opportunity arises, if the old Adam prevails and he pays in kind. So far as my observation goes, there are three chief causes for the quarrels of doctors. The first is lack of proper friendly intercourse, by which alone we can know each other. It is the duty of the older man to look on the younger one who settles near him not as a rival, but as a son. He will do to you just what you did to the old practitioner, when, as a young man, you started—get a good many of your cases; but if you have the sense to realize that this is inevitable, unavoidable, and the way of the world, and if you have the sense to talk over, in a friendly way, the first delicate
situation that arises, the difficulties will disappear and recurrences may be made impossible. The young men should be tender with the sensibilities of their seniors, deferring to their judgement and taking counsel with them. If young graduates could be taken more frequently as assistants or partners, the work of the profession would be much lightened, and it would promote amity and good fellowship. A man of whom you may have heard as the incarnation of unprofessional conduct, and who has been held up as an example of all that is pernicious, may be, in reality, a very good fellow, the victim of petty jealousies, the mark of the arrows of a rival faction; and you may, on acquaintance, find that he loves his wife and is devoted to his children, and that there are people who respect and esteem him. After all, the attitude of mind is the all-important factor in the promotion of concord. When a man is praised, or when a young man has done a good bit of work in your special branch, be thankful—it is for the common good. Envy, that pain of the soul, as Plato calls it, should never for a moment afflict a man of generous instincts who has a sane outlook in life. The men of rival schools should deliberately cultivate the acquaintance of each other and encourage their students and the junior teachers to fraternize. If you hear that a young fellow just starting has made mistakes or is a little 'off colour,' go out of your way to say a good word to him, or for him. It is the only cure; any other treatment only aggravates the malady.

The second great cause is one over which we have direct control. The most widespread, the most pernicious of all vices, equal in its disastrous effects to impurity, much more disastrous often than intemperance, because destructive of all mental and moral nobility, as
are the others of bodily health, is uncharitableness—the most prevalent of modern sins, peculiarly apt to beset all of us, and the chief enemy to concord in our ranks. Oftentimes it is a thoughtless evil, a sort of tic or trick, an unconscious habit of mind and tongue which gradually takes possession of us. No sooner is a man's name mentioned than something slighting is said of him, or a story is repeated which is to his disadvantage, or the involuntary plight of a brother is ridiculed, or even his character is traduced. In chronic and malign offenders literally 'with every word a reputation dies.'

The work of a school is disparaged, or the character of the work in a laboratory is belittled; or it may be only the faint praise that damns, not the generous meed from a full and thankful heart. We have lost our fine sense of the tragic element in this vice, and of its debasing influence on the character. It is interesting that Christ and the Apostles lashed it more unsparingly than any other. Who is there among us who does not require every day to lay to heart that counsel of perfection: 'Judge not according to the appearance, but judge righteous judgement'?

One of the apostles of our profession, Sir Thomas Browne, has a great thought on the question:

While thou so hotly disclaimest the devil, be not guilty of diabolism. Fall not into one name with that unclean spirit, nor act his nature whom thou so much abhorrest—that is, to accuse, calumniate, backbite, whisper, detract, or sinistrously interpret others. Degenerate depravities, and narrow-minded vices! not only below St. Paul's noble Christian, but Aristotle's true gentleman. Trust not with some that the Epistle of St. James is apocryphal, and so read with less fear that stabbing truth, that in company with this vice thy religion is in vain. Moses broke the tables without breaking of the law; but where charity is broke the law itself is shattered, which cannot be whole without love, which is the fulfilling of it. Look humbly upon thy virtues; and though
thou art rich in some, yet think thyself poor and naked without
that crowning grace, which thinketh no evil, which envieth not,
which beareth, hopeth, believeth, endureth all things. With these
sure graces, while busy tongues are crying out for a drop of cold
water, mutes may be in happiness, and sing the Trisagion in
heaven.

And the third cause is the wagging tongue of others
who are too often ready to tell tales and make trouble
between physicians. There is only one safe rule—never
listen to a patient who begins with a story about the
carelessness and inefficiency of Dr. Blank. Shut him or
her up with a snap, knowing full well that the same tale
may be told of you a few months later. Fully half of
the quarrels of physicians are fomented by the tittle-
tattle of patients, and the only safeguard is not to listen.
Sometimes it is impossible to check the flow of impre-
cation and slander; and then apply the other rule—per-
fectly safe, and one which may be commended as a good
practice—never believe what a patient tells you to the
detriment of a brother physician, even though you may
think it to be true.

To part from the profession of this country and from
this old faculty, which I have learned to love so dearly,
is a great wrench, one which I would feel more deeply
were it not for the nearness of England, and for the
confidence I feel that I am but going to work in another
part of the same vineyard, and were it not for the hope
that I shall continue to take interest in your affairs and
in the welfare of the medical school to which I owe so
much. It may be that in the hurry and bustle of a busy
life I have given offence to some—who can avoid it?
Unwittingly I may have shot an arrow o'er the house
and hurt a brother—if so, I am sorry, and I ask his
pardon. So far as I can read my heart I leave you in
charity with all. I have striven with none, not, as
Walter Savage Landor says, because none was worth the strife, but because I have had a deep conviction of the hatefulfulness of strife, of its uselessness, of its disastrous effects, and a still deeper conviction of the blessings that come with unity, peace, and concord. And I would give to each of you, my brothers—you who hear me now, and to you who may elsewhere read my words—to you who do our greatest work labouring incessantly for small rewards in towns and country places—to you the more favoured ones who have special fields of work—to you teachers and professors and scientific workers—to one and all, throughout the length and breadth of the land—I give a single word as my parting commandment:

'It is not hidden from thee, neither is it far off. It is not in heaven, that thou shouldest say, Who shall go up for us to heaven, and bring it unto us, that we may hear it, and do it? Neither is it beyond the sea, that thou shouldest say, Who shall go over the sea for us, and bring it unto us, that we may hear it, and do it? But the word is very nigh unto thee, in thy mouth, and in thy heart, that thou mayest do it'—Charity.
TYPHOID FEVER AND TUBERCULOSIS.1

BY

WILLIAM OSLER, M.D.,
of Baltimore, Md.

Professor of Medicine, Johns Hopkins University.

Two patients in the wards of the Johns Hopkins Hospital illustrate the important relations which may exist between typhoid fever and tuberculosis.

1. The diseases may be concurrent. A person with chronic tuberculosis may contract the fever. Of 80 autopsies in typhoid fever, 4 presented marked tuberculous lesions. Less frequently miliary tuberculosis and typhoid fever may occur together.

2. Enteric fever may be mistaken for tuberculosis. This, I think, is rare. You will find on page 464 of Series III of "Studies in Typhoid Fever," 2 a case in which for nearly 2 weeks we suspected a tuberculous pneumonia and looked for tubercle bacilli. The disease began with a slight fever, headache, cough, and on examination there was impaired resonance in the right infrascapular region with tubular breathing and moist rales. Ten days after admission to the ward the left lower lobe was involved. The patient had a bad family history, one sister having died of tuberculosis, and for the first 2 weeks we were very anxious indeed. Then the picture changed entirely. She had a continuously high temperature, rose spots appeared, the spleen enlarged, and the symptoms of typhoid fever became well marked. The Widal reaction was not positive until the end of the third week. Such cases are not common.

3. Very much more frequently tuberculosis is mistaken for typhoid fever, a point which these cases illustrate. There are 5 types of tuberculous infection which may simulate typhoid fever—the acute miliary form, tuberculous meningitis, tuberculous peritonitis, the acute toxemia of certain local lesions, and forms of pulmonary tuberculosis. You will find much in the literature on

---

1 Clinical Remarks, Johns Hopkins Hospital, October 24, 1903.
2 Johns Hopkins Hospital Reports, Vol. viii.
the question of the diagnosis in the first three of these groups, but not on the last two, and, judging from my personal experience, the profession is not fully alive to the importance of the subject.

The patient, H. L. D., a man aged 30 (Hosp. No. 44,014) was admitted on September 13, 1903, complaining of shortness of breath, pleuritic pains, and cough. His habits had been fairly good. He had worked hard. His present illness had begun 2 weeks before admission with pain in the left chest and back. He did not feel very ill, and continued at work until September 13, the day before admission. He thought he had had some fever at times. On September 12, he had epistaxis and 2 chills in quick succession. On the night of September 11 and ever since he has had fever. There had been no cough and no diarrhea. Altogether the features of onset resembled very much those of typhoid, and on admission he had a temperature of 102°, pulse 108, respirations 24. The leukocytes were 5,500 per centimeter. He looked ill; had a heavy drowsy expression. The abdomen looked natural. The spleen was not felt. There were no rose spots. On examining the lungs, there was impaired resonance in the left infrascapular region with distant tubular breathing, distinctly blowing on expiration, and on coughing a shower of fine, crepitant rales. The patient coughed a little every day, but there was at first no sputum. On September 17, Dr. Futter noticed that he was a little cyanosed, and there was on the left side of the chest a leathery friction. The sputum on this day was examined for tubercle bacilli, but was negative. His general condition remained good. The temperature ranged between 102° and 103°, and was very steady. There were no sweats. In the next few days there was no special change in the character of the pulmonary signs. The involvement of the left lower lobe was marked, and the tubular breathing became more distinct. There were no rose spots, and the nature of the case was doubtful. The leukocytes were not increased. The Widal reaction was negative. The absence of more positive signs of typhoid fever and the absence of rose spots and the Widal reaction, made the marked pulmonary features more significant, and the sputum was examined with great care. On September 25, a few bacilli were noticed, which were regarded as suspicious, and on September 26, well-characterized tubercle bacilli were present. Elastic tissue was not found. The local signs persisted at the left base, but the fever gradually subsided, the respirations were not above 24, and on September 27, the temperature became normal. The chart is very suggestive of a mild typhoid subsiding in the third week, and had not the pulmonary symptoms been pronounced and the tubercle bacilli so definite, I think we should have had much difficulty in making a positive diagnosis. At present there is impairment of resonance at the left base with distant tubular breathing. The cough has lessened, he has had no sputum, and he looks as though he were going to do very well.

The issue in these cases is not always so satisfactory. We had a sad lesson 5 or 6 years ago.

A medical student, Edward S. O., aged 26, was admitted to Ward C on June 13, 1898, complaining of fever and headache and cough. His father had died 18 years before of tuberculosis, and two uncles on the mother's side had died of tuberculosis. He
had been very healthy and well. He had just finished his examination and had naturally been somewhat "used up." On Saturday, June 4, he had slept in a draught, and on the following morning he was very heavy and drowsy. On Monday morning he took a long walk, began to feel feverish and had creepy, chilly sensations. He felt very badly on Tuesday and started for Baltimore. He had a little diarrhea that week, headache and fever persisted, and on Sunday morning, June 12, he began to cough. He had loss of appetite; no diarrhea.

On admission the temperature was 101.3°; pulse 96. Leukocytes 8,200. He felt very much prostrated, but on coughing he felt no pain; he had no expectoration. No rose spots were seen. The Widal reaction was not present. He was dull and drowsy, complained of severe headache, and was easily excited. The lungs were very carefully examined on June 13 and June 14, and there were no special signs detected. Throughout the month of June the fever persisted, once reaching 103°, usually about 102° in the evening. The Widal reaction was not present; there were no rose spots, and the spleen was not enlarged. The tongue was slightly coated and the bowels were constipated. There was no diazo reaction in the urine, no albumin, no tube casts. When I left town about the middle of the month my impression was that he had typhoid fever. Throughout July the condition remained practically the same. There were repeated notes of the physical examination. The temperature range was perhaps a little lower, particularly the evening record, and after July 15 it rarely rose in the evening above 101°, and in the morning was usually normal. The spleen was not palpable. After the middle of July the tongue was clean. The only suspicious points at all were a little pain on deep inspiration, and there were a few fine rales heard at both bases. There was no cough. On July 26 it had become evident that there was trouble in the right lung. There was a tympanic note at the right apex; there was flatness in the lower interscapular region and in the infrascapular area, with tubular breathing and fine moist rales. He seemed, however, to be doing very well. The appetite was good and he had no cough and no expectoration. By this time the possibility of tuberculosis was entertained, but it was not possible to say definitely.

On July 28, the red blood-corpuscles were about 4,000,000; there was no leukocytosis. Early in August he improved a great deal. The temperature was rarely above 100.5° and the respirations were only 20. He had little or no cough, and he seemed very much better. He left the hospital on August 10. There was still an area of consolidation at the right base. Subsequently he grew very much worse, the tuberculosis became quite manifest and he went to the Adirondacks, where he was under the care of Dr. Trudeau for several years.

Dr. Thayer and I were criticised very severely by the family for having regarded this case at the outset as one of typhoid fever. In truth we never reached a definite conclusion, and the diagnosis which Dr. Thayer put down on the history sheet was "Continued Fever; Pneumonia (Tuberculous?)." Under the circumstances I do not think that we could have done anything else, but the case illustrates a serious clinical difficulty which you will find very hard to meet.
There is in the private ward at present another case which illustrates the readiness with which this mistake may be made.

A young married woman, aged 26 (Hosp. No. 44,466); with a good family history, noticed in May of this year that she had some "bubbling feelings" on the left side. She was pregnant at the time; her child was born June 13, shortly after which time she began to have a cough, with pain in the left shoulder. Ten days after delivery she got up, but she felt weak and feeble and she had cough and night-sweats. She was sent to the country and in the fourth week in July she was confined to bed with fever. The temperature rose to between 102° and 103°, and the diagnosis of typhoid fever was made. She was placed on a liquid diet. She continued in bed, supposed to have typhoid or typhomalarial fever, until the middle of September, when she was allowed to get up. Shortly afterward the fever reappeared, of a remittent type. She had a great deal of cough and mucopurulent expectoration. She lost in weight, the fever persisted and she applied at the hospital on October 22, believing that she had some sequel of typhoid fever.

The chest showed marked asymmetry, owing to shrinkage of the left side. The muscles of the left shoulder girdle were wasted, and there were signs of extensive disease in the left lung. The sputum was profuse, mucopurulent, and contained very many tubercle bacilli. Her temperature-range while she was in the hospital was from 99.5° to 103°.

Here the pulmonary tuberculosis was latent in onset, probably before the birth of her baby. As is so often the case, rapid progress was made during lactation, and the fever was mistaken for typhoid. Apparently, no suspicion had been entertained of tuberculosis.

4. In rare cases pulmonary consumption follows typhoid fever.

You not infrequently see the statement made that patients convalescent from this disease are particularly prone to tuberculosis. I do not think the facts warrant this, and I believe very many of these cases are tuberculous from the outset. The original attack, as in the case of the young man you have just seen, simulates typhoid fever so closely that the physician is deceived. Then pulmonary symptoms supervene, and it is thought that the tuberculosis has come on after typhoid fever. Every year I see one or two cases of this sort, and I am glad to have had this opportunity of bringing the subject before you, as one of great importance which has scarcely received the attention it deserves.