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ADDRESSES.

A FEW LIVING ISSUES AFFECTING THE HISTORY OF MEDICINE, AND WHAT CAME OF THEM.

The President's Address, delivered at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7, 8, 9 and 10, 1895.

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The patriot poet of Scotland, Robert Burns, recalling the aspirations of his ardent young manhood, immortalized one of them in these simple but eloquent lines:

"A wish (I mind its power),
A wish that to my latest hour
Shall strongly heave my breast;
That I for poor auld Scotland's
sake
Some usefu' plan or book could
make,
Or sing a song at least."

By simply substituting the larger term, Humanity,

for the poetical and romantic one, Scotland, in this stanza, we have a sentiment appropriately expressive of the motive which brings us together to-day.

The annual meeting of the AMERICAN MEDICAL ASSOCIATION occurs at the brightest and sweetest season of the year and in most congenial surroundings. It never, as far as my recollection of its meetings extends, has failed to prove an occasion of delightful interchange of fraternal relations between its members, as well as a season of practical advantage to all sorts and conditions of men, influencing as it does, for the highest ends, innumerable interests and shedding rich blessings upon humanity, wherever sickness is to be healed, vice to be cured, life to be saved, or good to be accomplished. If the present occasion proves any exception to its predecessors, you will readily believe that my most earnest ambition is that this may consist in the fact that its endeavors shall be greater and its results more valuable than those of any previous meeting. So far as the surroundings and associations of our present place of meeting are concerned, we are indeed highly favored.

The members of an ASSOCIATION, interested in matters medical, philosophical, humanitarian, that could fail of being uplifted and inspired by the atmosphere and genius of this beautiful classical city of Baltimore, with its more than imperial halls of learning, its ideal and palatial hospitals, and beautiful charities, its world-famed scholars, philosophers and leaders of thought, must have reached a stage of indifference and lethargy painfully suggestive of that hopeless form of degeneracy known as "paretic dementia."

In the presence of this great and learned ASSOCIATION and in the midst of such impressive scenes of scientific and professional suggestiveness, it is with no little hesitancy and timidity that I invite you to accompany me in a brief and inevitably imperfect retrospect, having reference to what I have designated as "A few living issues affecting the history of medicine, and what came of them."

My purpose is to recall briefly, certain questions which in their day received the active and interested attention of the profession, and of scientific and thoughtful people. In doing this, I shall confine myself to the period of my own professional cognizance, namely, the forty years last past or thereabouts.

For some years immediately preceding and immediately following the beginning of my professional life, the attention of science and of medical thought was directed toward that renowned center of medical and general learning, my own alma mater, Edinburgh. A glance at the names which at that time constituted its medical faculty will explain this. They were Syme, Simpson, John Hughes Bennett, John Goodsir, Robert Christison, Lyon Playfair, Mr., now Sir William Turner, who is the only one still remaining of that brilliant galaxy of teachers and philosophers. Playfair still survives, but many years ago he abandoned academic pursuits and devoted his life and great abilities to statesmanship, being now a member of the House of Lords, a distinction rarely attained by a member of the medical profession.

Such a faculty could not fail to attract interested attention. While it is well known that at Edinburgh a vast amount of extremely valuable work was, in these days, accomplished in all departments of medical science, still there was, in that far-famed school, one man and one question toward which, from every quarter of the civilized world, eager anticipations were directed. This man was James Young Simpson, and the question was, "The use of chloroform as an anesthetic." Having caught the essential idea of relieving pain by the inhalation of ethereal vapors, from this country, Simpson, with the energy and courage of his great nature, devoted all his eloquence, ingenuity and literary acumen to the development and final establishment of the new doctrine. How he succeeded we now know full well.

Simpson and his followers advocated the tremendous innovation of administering chloroform, not only in surgery, but to suffering woman in her time of sorest need. The proposition aroused a tempest of opposition from all sides, not excepting the pulpit. All the unreasoning conservatism, not only of Great Britain but of the civilized world, was concentrated and arrayed against Simpson and his allies in this movement. He was maligned by his professional brethren, discredited by the general public and anathematized by certain parties in the church. All experience was against him, all theory was adverse to the

proposed innovation in practice. The Bible even, that messenger of peace and goodwill, was hurled at his devoted head and he was advised to read the sixteenth verse of the third chapter of Genesis and ponder it in his heart:

"Unto the woman he said, I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children and thy desire shall be to thy husband and he shall rule over thee."

To all his antagonists Simpson presented a brave and undaunted front. To all their arguments he opposed counter arguments which eventually settled the dispute advantageously to humanity and creditably to him. Asked by a high dignitary of the National Church of England on what authority he presumed to contravene the original curse pronounced against the woman, he aptly replies by calling attention to the closing verses of the second chapter of Genesis, which he claimed to be the true and authentic record of the first instance of the use of anesthetics, by which a precedent was established for all similar emergencies:

"And the Lord caused a deep sleep to fall upon Adam and he slept, and he took one of his ribs and closed up the flesh instead thereof."

The propriety and wisdom of using chloroform in labor is happily not now regarded as a *questio vexata*, although my own belief is that it is not yet used as frequently or as generally as it ought to be. I heartily agree with those who administer it in the trying stages of every case of labor. Simpson contended for its judicious use in cases of *puerperal*, *infantile* and other convulsions. So far as my own observation and experience go in this class of cases, it stands to-day the most valuable and reliable means of immediate relief. On calm and deliberate reflection is it possible, I ask you, to over-estimate the courage, the determination and the fine scientific faith of him who, in the face of such tremendous odds, fought to a triumphant issue, this great battle for science and humanity. If the annals of medical history furnish an equally brilliant example of well earned and priceless victory, I am at a loss to know where it is to be found.

Before leaving this subject it seems no more than fair to prefer a claim for a considerable degree of honor for one of Simpson's patients who proved also to be a powerful ally. I allude to a certain illustrious lady who, reposing sublime confidence in her medical adviser, and influenced we doubt not, by the consideration that the weight of her example must forcibly affect the great question at issue, did not falter in her brave determination (although every conventional influence opposed, and the great ecclesiastical organization of which she was and is the temporal head, held up a warning finger to restrain and deter her) of becoming a party to so startling and revolutionary a proposition. Gently but firmly pushing aside these and other influences, she gave the whole world a lesson, in the exercise of a reasonable and well grounded confidence in "her doctor," by submitting herself to the new and as yet almost untried obstetrical expedient, thereby instantaneously determining once for all the happy and victorious solution of this great and burning scientific issue, upon the everlasting and invincible grounds of truth and righteousness. What reason and argument and strong contention well-nigh failed to accomplish, the brave action of a confiding and gentle woman made easy and certain. For this act of roy-

alty may we not in all sincerity exclaim, "God save the Queen!"

In the year 1859, while I was a second-year student in the Edinburgh Medical School, the controversy connected with the introduction of anesthetics had barely been concluded when the scenes shifted, and immediately the movement of another great act in the drama of scientific progress began. For the scenes and acts of this mighty drama are continuous and unceasing. In it there is neither interruption nor interlude; on it the curtain is never rung down. In this year, Darwin's work, entitled "The Origin of Species," appeared in London, and as we look back and contemplate the effect of this book we are forced to admit that it constituted a turning point in the history of science. It appears now as if by its means the spectators were permitted to behold a new and hitherto unimagined and unimaginable view of the long sought for secrets of nature, making many things intelligible which, previous to that time, had been wrapped and hidden in that impenetrable and sepulchral vestment, "mystery." Like the wand of the magician it shed new light and inspired fresh hope along every highway and byway of scientific endeavor. Slowly but surely, men have come to see that Darwinism and the allied theory of evolution constitute the greatest and most radical living issue affecting the scientific thought of the last forty years. It is but a modest and feeble statement of the nature and extent of its claims, to affirm that the fundamental and far-reaching conceptions of Darwinism have forcibly and permanently affected every department of medical thought. By their influence, every department and every fact of the marvelous and beautiful drama of scientific evolution has acquired a new and greater significance.

It would be impossible, within the limits of this review, to particularize the luminous influences which have proceeded to every department of science, all of which had their origin in Darwin's great generalization. Foremost among these was one of profound biologic significance affecting all our previous conceptions of heredity. Heredity must always remain a prime factor in the etiology of disease. A correct conception of that in which it consists would appear to be indispensable for the comprehension of pathologic processes. Manifestly, if Darwin's law were true and if the acquirement of variations by means of natural selection was the cause of modification in the organism, not only must heredity be the cause of permanence in organic types, but it must also be upon transmission of beneficial variations that racial development is dependent.

These conclusions gave rise to a renewed application of the laws of heredity to medical science. Embryology became a matter of deepest significance. Teratology took rank as a science. Reversions in type began to be intelligible, strange growths were no longer viewed with wonder as *luses naturæ*, as sportive attempts of nature to accomplish something strange, but were studied carefully with an eye to their comparative classification. The Cohnheim theory of tumors arose, attributing to residual fetal cells a malign potency even greater than the doctrine of pangenesis would justify. The influence of Darwin on medicine can scarcely be exaggerated. Where is a better pathology of hernia to be found than in the "Descent of Man?" Notice how fertilizing an influence it brings to the study of obscure diseases. Dr.

Hector McKenzie, in his recent studies of Graves' disease, finds the cardinal symptoms of this disease, "tachycardia," "exophthalmos," "enlarged thyroid" and "muscular tremor" to be those of extreme terror. Darwin's explanation of the symptoms of terror is very suggestive. Men, during numberless ages, have endeavored to escape from their enemies or danger by headlong flight and violent struggling. Such exertion will have caused the heart to beat rapidly, the nostrils to dilate, the breathing to be hurried and all other symptoms of extreme physical effort, the final result being prostration, pallor and relaxation of muscles. "And now, whenever the emotion of fear is strongly felt, though it may not tend to any exertion, the same results tend to reappear through force of inheritance and association." If we imagine this condition of terror to become prolonged by failure of the nervous system to regain its balance, we then have a more or less complete picture of Graves' disease. Thus Graves' disease may be the expression, by the unconscious memory of the individual, of some shock in an ancestor. Nature has indeed a long memory. When she remembers her past so well, are we not arrogant in calling expressions of it "unconscious?"

While alluding to the influence of Darwin, especially through the doctrine of heredity, it would be wrong not to call attention to another sweeping generalization which must profoundly influence medical thought. The theory of heredity propounded by Professor Weissman, of Freiburg, may be said to have arisen out of Darwin's work largely through being a negation of some of Darwin's conjectures. Weissman's theory seeks to explain what no doctrine of heredity has hitherto accounted for,—how a single microscopic cell can reproduce parental characteristics, and frequently characteristics of grand-parents or remote ancestors. Darwin's doctrine of pangenesis was never felt to be entirely satisfactory. Weissman's theory of the "continuity of the germ plasm,"—the inference of the practical immortality of the germ plasm, the explanation of variation by means of natural not acquired selection, and the admission that a man resembles his parents, not because he acquires by transmission their characteristics, but because *he* as well as *they* arise out of the same germ plasm, these are conclusions which, if ultimately substantiated are bound to influence and modify our conception of disease and its processes most profoundly.

Those of us who can recall the birth and growth of this new philosophy, those of us who have been privileged to note the ever increasing influence of its teachings and methods on all our modes of thought, not only in the fields of abstract science, but in physiology, pathology and practice of medicine, not to mention other fields of effort, are fully persuaded that whether or not this may be set down as a live issue which has been finally and definitely estimated and disposed of, no more vital and far-reaching one has ever affected our views of natural processes or our methods of reasoning, whether as philosophers, scientists or practitioners of the healing art than this one so modestly and withal fearlessly set forth in the unpretentious volume entitled, "The Origin of Species," published in London in 1859.

Contemporaneously or nearly so, with the important issues referred to, we find another which, involving interests of the utmost importance was, from its nature not so capable of prompt demonstration, thus

furnishing cause of argument and disagreement for a number of years. I refer to the striking revolution in the theory and practice of medicine which resulted in the abandonment of blood letting and all concomitant so-called antiphlogistic expedients on which the profession has so confidently and comfortably anchored its faith from time immemorial. The change came gradually but certainly. It was useless to deny the fact of the therapeutic reformation, and it was a fundamental and beneficent one. The discussion and the disagreement was as to the why and wherefore of the change. One explanation ingeniously asserted was that the type of disease had changed and that as a result the treatment had to be modified and made milder and more merciful in order to conform to the new and more innocent character of the attack. Other explanations have been given, but it would be a waste of time to recall them. The fact remains that about the time that I and others equally inexperienced were inhaling our earliest draughts of scientific inspiration under the guidance of the great authorities already mentioned, these eminent men themselves were passing through a radical and complete change of belief and of practice. Whatever obscurity may pertain to the various steps and moving causes of this reformation we, from the vantage ground of our present position, are able to look back and with calm judicial fairness recognize the actual truth as to how it was brought about. It was no mere chance, no experimental haphazard change of fashion, no mere product of climatic or meteorologic influences; on the contrary, it was the rich and well earned reward of intelligent, earnest and persistent study and observation, carried on in the spirit created and bequeathed to the scientific world by John Hunter and others of his type. Among the notable names associated with this issue, not one, in my opinion, stands higher than that of John Hughes Bennett who, studying and intelligently interpreting the fundamental and essential phenomena of irritation and inflammation as seen by the microscope in the web of the frog's foot, the bat's wing, and other translucent tissues, had the genius and courage to turn his knowledge thus acquired to practical uses and discarding the ancient and accepted sheet anchors of antiphlogistic treatment, blood letting, calomel, antimony and so forth, determined to give the *vis medicatrix nature* a fair chance. Supplementing nature's efforts by mild and supporting methods he succeeded in reducing the mortality of pneumonia from 20 per cent. to less than 3 per cent. in the worst class of *complicated* cases, while in plain uncomplicated cases the mortality was reduced by Bennett from about 20 per cent. to *nil* or thereabouts. These statistics are presented on the authority of my friend Prof. John A. Ouchterlong, of Louisville, Ky., and can not be questioned. And what was even more important he persuaded the whole professional world to pause and reflect. By imitating his methods of observation and reasoning, the profession, in the true spirit of scientific modesty yielded more implicit honor to nature and to nature's powers and methods of healing. In the accomplishment of this impressive transformation scene in the drama of scientific medical progress, the leaders of thought on this side of the Atlantic, to their honor be it said, furnished prompt, intelligent and effective assistance. This is one of those living issues, one of those stirring and inspiring acts in the drama of scientific

progress, the happy accomplishment of which I and my cotemporaries have been privileged to observe and take some part in. In close and rapid succession we encounter other issues to be enumerated in this review.

In the humble office of a poor and unknown physician in Alabama, and almost simultaneously in a small and comparatively limited and insignificant ward of the royal infirmary of Edinburgh, initial arrangements were wisely made in all scientific modesty and earnestness for the ultimate presentation of a marvelously important and beautiful scene in the great drama of practical medical science. In other words, by J. Marion Sims on this side of the Atlantic, and Simpson on the other, with the support and assistance of their immediate allies and associates, the science and art now known as gynecology was conceived and rapidly matured. From very insignificant and unpromising beginnings this science has certainly, as we all know, increased and grown and, in short, passed through an almost miraculous process of evolution. Although some of its claims may be extravagant and some of its methods objectionable, and its condition as a whole capable of improvement and refinement, we are bound to claim for it a most exalted and honorable position among the living and successful issues which have contributed to render memorable that portion of the great history of medical progress with which we are now concerned. For the vast amount of blessing it has afforded to suffering woman let us give sincere and heartfelt thanks. For any failures or blemishes with which this modern child of noble origin may be tainted, let us cherish the hope that these will at no distant date disappear by a gradual process of elimination and evolution.

In this retrospective view of living issues in medical thought, it would be impossible to overlook the important and inspiring one comprehended under the name of "the cellular pathology." With this page in the history of our science, the great name of Virchow will always be inseparably associated, as its founder and greatest advocate. Based on this great teacher's amazing and fascinating discoveries and deductions, a kind and degree of sanguine expectation was induced in the minds of many people, eager and perhaps too willing to believe that here at last the keynote of all pathologic speculation had been struck, that the solution of all the mysteries of the origin and nature of tissue degenerations was within their grasp, that in the tersely expressed principle "*Omnis cellula e cellula*" was comprehended the master key by which all the hitherto tightly locked avenues of pathologic truth were to be made an open sesame. It may be possible to look back and perceive that this confident expectation, was to a great or less extent, misplaced and doomed to disappointment. It can not be denied that there are even yet, in spite of the cellular pathology and all that has come after it and through it, a good many very deep and dark mysteries still unsolved in the domain of pathology. And yet is there an individual here present, is there a member of our profession anywhere who is not willing to pay sincere and loyal homage to the cellular pathology for its own sake, as well as to its immortal founder and his school for all that it made possible in the advancement of pathology, as well as biology generally?

My old friend and classmate, Mr. Lawson Tait (to

whom, in common with my professional brethren everywhere, I am always ready to acknowledge a vast debt of gratitude for the eminent services which he has rendered to our profession and to humanity) has ventured to speak in terms of sarcasm and contempt of the cellular pathology. He tells us that when he entered the profession everybody was "mad after a new cell," and he adds, "a cellular pathology grew up which was to explain everything." The implication is obvious that everybody *did not* succeed in finding a new cell and that the cellular pathology *did not* explain everything, all of which is no doubt only too true. It is incomprehensible (to me at least) that Mr. Tait can believe or that he can expect other intelligent students and thinkers to believe that the cellular pathology of Virchow and his school does not stand out to-day as one of the most inspiring and beautiful features in the history of medical effort and thought in this age.

To say the very least, it constituted in its day a stepping stone of the most vital and critical necessity, without which the onward and upward march of pathologic and biologic progress must inevitably have been grievously delayed and embarrassed. Mr. Tait or any one else who presumes to sneer at or belittle this product of Virchow's genius writes himself down in my opinion on a plane with the illiterate and unesthetic bucolic immortalized by Wordsworth in the well known lines:

"A primrose by the river's brim
A yellow primrose was to him
And it was nothing more."

Pasteur, Tyndall, Lister; the mention of these three names, familiar wherever the rays of modern civilization have penetrated is, I am sure, all that is necessary for the purpose of introducing here the ever fresh and all important "living issue" known as the "germ theory of disease."

It would be little short of impertinence for me to inflict upon you any extended dissertation on this great issue, in regard to which such ample facilities have been furnished for enabling every individual to obtain the fullest knowledge from which to form an intelligent opinion as to the precise value of this theory to practical medicine and surgery. This, at all events, will be freely conceded, that from the time of Hippocrates down to the present moment, the history of medicine will be searched in vain for another instance of the application of scientific facts and observations to medical theory and practice secured by patient untiring effort that can for a moment be compared with this one. Starting with Pasteur's abstract, and so far as practical medicine and surgery are concerned, we might almost say, aimless experiments and observations, like a photographic negative, gradually but beautifully it has developed and grown, until the whole theory of the healing art has come to be thoroughly modified and colored by its influences.

It was undoubtedly the inspiration derived from the Darwinian doctrine of the struggle for existence, ultimately securing the survival of the fittest, that gave new significance to the studies which had begun with Pasteur, and whose relation to surgery had been so splendidly demonstrated by Lister in a series of brilliant and conclusive experiments in 1865. If life from its abstract standpoint were a conflict in which the fittest survived, how much more so was the concrete and organic life the scene of a perpetual warfare with those insidious foes, the microbes. It

is not possible here to trace the growth and development of the new science of bacteriology which we know has revolutionized the science of surgery, modified the art of surgery and subverted our deepest, most fundamental pathologic beliefs. So essential has this science become that to-day we regard no young practitioner as thoroughly equipped for surgical work who is not something of an expert bacteriologist. It is out of the study of bacteriology and microbic pathology that modern medicine is slowly but certainly evolving one of her supreme triumphs. Hitherto the immunity to attacks of smallpox conferred by vaccination has been an isolated and incomprehensible fact. Jenner's discovery has been a witness to the value of empiricism in medicine. In harmony with no theory, explained by no logical device, vaccination has by its own inherent virtue proved the value of *undiscovered theories*. To-day a meaning is given to the word "immunity" such as was never before known. A great hope animates the noblest of professions, that in all the so-called zymotic diseases, immunity may eventually be conferred and the most disastrous agencies of human destruction may be deprived of their malignity through the sublime genius of man.

It would be impossible to discuss at length the various theories of immunity, nor can I venture to attribute the degree of truth pertaining to each. To designate the particular rôle of the phagocyte in the competitive struggle graphically described by Metschnikoff—to decide whether the organism generates its own bactericides, or whether the so-called antitoxins and alexines are the product of certain suicidal tendencies on the part of the bacteria themselves—these are secrets which the laboratory is effectually disclosing. Some one has said, a man confronts his own worst enemy as he looks in his mirror, and it may be that the bacteria themselves are their own worst enemies. That while they are causing commotion within our bodies, they are really engaged in the work of self-destruction. However this may be, the recent experience of the profession in the antitoxin treatment of diphtheria, a treatment the introduction of which the Health Officer of New York already admits has lessened the death rate from that fell disease 40 per cent., indicates that after the lapse of many years vaccination for smallpox is not to stand as an isolated fact in medicine. Every fact has some relation to all other facts. "For a blade of grass to grow all nature must coöperate," says Diderot. If immunity can be given in one disease it certainly can in others. If there be one event that can accentuate this meeting in the memory of those who honor it with their presence it will, I firmly believe, be due to the fact that to-day we, as a profession, stand on the threshold of one of the most beneficent discoveries medicine has ever made. A discovery whose consequences will transcend those of any other in the increase of happiness it will ultimately bring to mankind.

In any attempt to review the living medical issues of the last forty years, it would doubtless be expected that reference should be made to the all-important one of medical education, a subject in which my own humble endeavors have been intimately involved. My first course of lectures in a medical college was given at Queen's University, Kingston, Ontario, in the session of 1864-65, and from that time to the present the question of medical education has been a

theme of vital thought and earnest ambition. In this country, in Great Britain, on the continent of Europe, everywhere, there seems to have arisen about that time a wonderful awakening to a new and better dispensation in the methods and principles of medical teachings.

The Edinburgh school led by Syme, Bennett and Gairdner, profiting by lessons derived from the great French teachers of that day, and from Mott and his cotemporaries in this country, inaugurated a reform which soon spread in every direction. This reform consisted mainly in abandoning the ancient and time-honored method of aiming to impart efficient medical and surgical training by that dreary and painful device "the didactic lecture," supplemented by text-books whose orthodoxy and reliability were estimated chiefly by their antiquity and exhaustiveness. Gradually methods have become more practical, clinical, demonstrative. Place side by side a medical college announcement of 1865 and one of 1895 and the contrast will be astonishing and commendable for the profound and radical improvement sustained. The mighty impetus given to medical pursuits which resulted from the experiences incidental to our great Civil War culminated in the establishment of medical schools in unnecessary profusion in nearly every State. The immediate effect on the requirements for graduation of this feverish activity with its concomitant rivalry constitutes, we must admit, a rather unpleasant subject of reflection. Time and force of circumstances have gradually tended to adjust this error, and the standard of medical graduation in the majority of our schools to-day is something of which we may all be reasonably proud. I should, however, be untrue to my oft-reiterated convictions if I hesitated to mention here one cause of complaint still justly chargeable to a considerable number of our American medical colleges. It is summed up briefly but truthfully as follows: some of these institutions claim to supply to their alumni complete courses and means of instruction; the fact is that one-half of them are shamefully deficient in clinical resources and facilities, while the other half are no less devoid of the men and the means necessary to do anything approaching to justice in teaching fundamental branches, without which a reliable and intelligent knowledge of surgery and practice of medicine is an impossibility. It has long been a settled doctrine with many people that the highest duty, as well as the material interest of these unilateral medical colleges, demand that they mutually agree that the efficient half of each shall be made more and more efficient and that the feeble and farcical one be suppressed or transferred to that institution which may be best able to do justice to the subjects under dispute. Some such mutual combination is essential if in the continued maintenance of these two classes of medical schools they are to be purged of the sin and shame of false pretenses.

In the rapid evolution and growth noted in medical education, it has seemed to those most closely concerned that the time has arrived when a united and determined effort might be made to establish a well-defined plan which would secure uniform coöperation in remodeling the whole system of medical graduation, thus securing for the various designations of "doctor," "surgeon," "physician" and so forth an intelligible and definite signification. This, in my opinion is "a consummation devoutly to be wished."

I have thus far aimed to recall briefly a few living issues in medical thought which have had the most far-reaching influence upon the practice of medicine and surgery during my career as an humble student and worker in that great and honorable army, whose duty and glory consist in its efforts to save life and relieve pain. If my presentation of these "issues" seem to you incomplete and imperfect, I ask you to consider the vastness of the subject and the impossibility of doing it more than partial justice in the time at our disposal. On every hand, issues of the most tempting and impressive attractiveness press forward in one's thoughts and demand at least honorable mention, but the limit must of necessity be drawn with arbitrary decisiveness in accordance with the inevitable and relentless rapidity of movement of the shadow on the sun-dial. That the few topics which our limited time has permitted us to pass in review have been essentially fundamental in their relations to all the others will be freely admitted. That these are sufficiently important to give honor and distinction to the epoch in which they occurred no one will deny. And during this epoch is it not true that in every civilized country under Heaven, vast legions of men have been constantly maintained for very different aims and purposes than those which have engaged our attention? Think for a moment of the incalculable expenditure of energy of every kind which has been devoted to the maintenance and equipment of those vast standing armies whose business it is to

"March to the drum beat's roll,
The loud-mouthed clarion's bray,
And bear upon their crimson scroll,
Our glory is to slay!"

Turning from the contemplation of these "marshalled hosts" and the death and destruction for which they are maintained, is it not a pleasant relief to direct our attention to such a peaceful and beneficent retrospect as that furnished by the labors and achievements of our profession? Is it not more pleasing to recall the quiet sublime efforts of our own contingent in the great "unending column" of life, that army which

"Moves in silence by the stream,
With sad yet watchful eyes,
Calm as the patient planets' gleam
That walks the clouded skies.

"Along its front no sabers shine,
No blood-red pennons wave;
Its banner bears the single line:
'Our duty is to save.'"

To sustain and improve this practical and genuine army of salvation, ought to be the living and moving ambition of every individual and every association. The United States Government maintains a standing army of at least 20,000 men thoroughly equipped and trained, for the purpose of destroying the lives of persons who are supposed to be inimical to its welfare. It leaves to us the responsible and laborious duty of maintaining and equipping, to the best of our ability, a vastly larger and more expensive army of medical soldiers whose functions are infinitely more numerous, intricate and vital than those of any military organization. The functions of this army are not only to contend with the enemies of human life and happiness and in so doing to suffer, oftentimes, hardships and privations, but unlike the great army of contention and bloodshed, it is also our duty and pleasure to love, cherish, uplift and save.

Ours is an army which so far has had to be self-sustaining and independent; an army which, in respect to all the attributes and qualities of the soldier and philanthropist has no reason to shrink from comparison with any association of men in the world's history. To many persons, myself among them, it has for some time appeared that the recorded and recognized results of our achievements give us the right to insist that the peaceful but brave, resolute and progressive army, known as the medical profession, should receive from the people and the government of this country a practical and official recognition which would afford a fair opportunity for the adequate application of the principles of medical science to the needs of the community.

A National Bureau of Health, superintended by a competent medical authority who shall be a member of the Cabinet, could not fail to secure for the nation, benefits beyond the language of dollars and cents to express. A united and dignified effort on the part of this ASSOCIATION and its allies ought to secure this enactment. The vast importance of such an act is obvious to the members of this ASSOCIATION, and our imperative duty, as it seems to me, is to impress the active and public-spirited statesmen, who guide and control the affairs of the nation, with the essential truth and value of our views. The very respectable problems of foreign policy which have, in recent times, engaged the attention and elicited the energies of our law-makers seem to sink into insignificance in comparison with the great and benign proposition here presented.

It is my deliberate opinion that the establishment of a Bureau of Health, as an integral part of the nation's executive, will prove an effective instrument in promoting the public welfare. It will be the means of unifying efforts in the suppression of dangerous diseases. It will afford opportunity for restraining the effete despotisms of the old world from adulterating our population with the vicious and degenerate. It will be a means whereby this enlightened and progressive republic may exemplify, to the world, the true mission of medical science. It will offer another agency for disseminating the truths of scientific discovery; another means of discriminating between that which is transitory and accidental in medical achievement and that which is permanent and immutable; and will furnish another promise that medicine in the future shall in no wise be unworthy of her past traditions.

The party, professional or political, which shall succeed in consummating this wise measure will assuredly earn for itself the gratitude and applause of an appreciative nation. The individual citizen who shall materially contribute to the success of this noble "*useful plan*" will be justified in congratulating himself on having realized the lofty aspiration of the patriot, as well as the sublime and pathetic "*wish*" of the poet: "*Homines deos accedunt hominibus dando salutem.*"

Buttersack's Vaccine Micro-organism.—Drüer (*Centralblatt für Bakteriologie und Parasitenkunde*) found the forms observed by Buttersack in lymph and claimed by him as the germs of vaccinia, in the contents of pustules after first as well as later inoculations, also in human serum, obtained by aspiration in pleurisy, in normal saliva and in albumin of hen's eggs. The last results prove that these forms can not be the specific cause of the inoculation pustule and that Buttersack's hypothesis is untrustworthy.—*Centralblatt für innere Medizin.*