



ADDRESS OF THE PRESIDENT

SURGICAL JUDGMENT

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FIRST, let me express to you, the Fellows of the Southern Surgical and Gynecological Association, my deep appreciation of the high honor that you have conferred upon me in selecting me to preside over your deliberations. My cup of happiness would be just now overflowing but for the sense of unworthiness upon my part to fill so exalted a position. However, since you have brought it upon yourselves, I can only say, I thank you; I shall ever esteem the Presidency of this Association, comprising, as it does, among its membership the leaders of surgical science and art in this country, one of the highest honors that can ever come to me.

"Life is short, art is long, experience fallacious, judgment difficult." With the pregnant aphorisms of the illustrious Father of Medicine, every member of this Society is doubtless quite familiar. Fruitful with suggestion, they, along with other of his writings which have come down to us, merit frequent reading, and will richly repay careful study. Even in this twentieth century of advanced knowledge and boasted scientific achievement, a close acquaintanceship with them will stimulate thought and action to higher purpose and to greater endeavor. Indeed, in view of the

indifferent character of much of the work that is still being done, of many of the doctrines that are still being taught, of much of the literature with which the medical press teems (to use a mixed metaphor), "half-baked" and crude as much of it is, and yet, nevertheless, often stated in terms of Delphic cocksureness—in view of all this, let me repeat, it would appear that the sage aphorisms of the great Hippocrates that have to do with the fallaciousness of experience and the difficulty of judgment, acquire a new significance, and apply to our day and generation with peculiar force and meaning.

It has seemed to the speaker, therefore, when reviewing the various topics appropriate for consideration in an address such as this, that it might be worth while upon this occasion to depart somewhat from the conventional, and to attempt to analyze, imperfectly though he may, wherein, more especially in the domain of surgery, lies the great difficulty in the way of the attainment of sound and correct judgment, and in what consists the fallacy of experience.

This is a difficult task which we have set ourselves, because it will be at once apparent that judgment and experience are very closely associated and interdependent, the one upon the other, and that in the consideration of each one separately, and in their several relations, one with the other, there are many different factors to be borne in mind, the relative measure of importance of which it will be found impossible accurately to determine.

So far as experience is concerned, it will be readily admitted that the fallacy to which Hippocrates has reference must, from the nature of the case, be inherent. It lies in the improper interpretation of certain phenomena which, from time to time, have come under observation. Furthermore, there is also the liability to error in the correctness of the observations themselves, and, not only this, but there is additional opportunity for error in the fact that these experiences which must of necessity be recurrent in character

(obviously they cannot all happen at once), must be recorded in the mind of the observer or upon paper, or by other mechanical device for temporary or permanent record. To err is human! It would seem, therefore, unnecessary to repeat what must be apparent to all, namely, that the possibility of error, common to everyone of these phases, is very real, nay, more than this, owing to the imperfection of our sense perceptions, of all of our mental faculties, of our so-called instruments of precision, of our records, there must be somewhere the absolute certainty of error. It is simply a question then as to how relatively great that error will be, and not as to whether or not it will exist at all. Since, then, as we have seen, experience is founded upon repeated observations of certain phenomena, and observation of these various phenomena is made through the senses, and record must in some way or other be made of these observations for subsequent reference, and then by processes of the mind, they must be rightly interpreted in order to form the basis of correct judgment, it can readily be seen that in this interchange, abundant opportunity for error will be afforded.

Let us pursue this line of reasoning a little further. Since these various stages through which experience must necessarily pass before it can express itself in terms of definite action, are so prone to error, and since in so many important decisions where experience is looked to for guidance, and since it so largely influences our judgment and actions in the domain of surgery, as it does in all other affairs of life, and since it often, quite unconsciously perhaps, plays such an important role in controlling and directing our impulses, it would appear to be of the utmost importance to consider this problem from a practical standpoint, and to point out, if possible, some way in which improvement along these lines can be made, and our accumulated experiences, an extremely valuable asset when properly interpreted and utilized, rendered less liable to error. This is the purpose

of this address. The speaker, even if he were able to do so intelligently, has no desire to invade the domain of psychology or to launch into a discussion of abstruse philosophical subjects which may possibly be suggested by the topic chosen, but which would be distinctly out of place upon an occasion such as this.

The practical question suggested by this discussion which concerns every one of us, and, not only us, but our patients as well, is this: "Is there any way in which this liability to error can be materially reduced and our experiences, vast and varied as they are, rendered a safer guide to our judgment?" Fortunately for all concerned, to this query an affirmative answer can be given. Many, indeed all, of the processes involved, are capable of development and improvement. In other words, we are at once confronted with the problem of education, medical education, in some of its manifold forms; and when I use the term "medical education," I do not use it in any restricted sense. I do not have in mind simply the four years that are ordinarily spent in the medical school, and the year or two in the hospital, for are we not, all of us, at any rate those who will, all the time learning, being continually educated, led out, as the word implies, into larger fields, with an ever widening horizon, with attractive vistas opening up here and there, beckoning us on and inviting us to enter into other spheres of greater opportunity and usefulness?

It is not our intention, however, to discuss the general question of medical education, further than to indicate, if possible, certain ways in which it may have a distinct bearing upon the subject under discussion. To do more than this would be foreign to our purpose, and would lead us too far afield.

It will be readily admitted, I believe, that the physician above all others, is the man whose education should be broad and complete, for to him are entrusted the lives of his fellow men, and inexperienced physicians, young or

old, without adequate preliminary and professional training, should not be permitted to practise so serious a profession. Unfortunately, however, for one reason or another, such permission is now readily granted. The fault lies partly with the public in not only permitting but, to a certain extent, encouraging the ignoramus and the charlatan. It would go a long way toward the eradication of this evil if the public would exercise more care and discrimination in the selection of medical men, especially surgeons. The true, well qualified physician, and the self-styled doctor do not and ought not to look alike. But the blame for this deplorable condition of affairs lies chiefly with the profession itself, for it is a lamentable fact that medical education and ideals in this country are low—lower, perhaps, than in other civilized countries: The reason for this is because our medical colleges are, on the whole, so far below the standard set by the rest of the civilized world that it shames us to make the comparison. These facts have long been known and bitterly deplored by the more enlightened members of the profession, but the investigations of the American Medical Association, covering a period of several years, and the exhaustive work of Mr. Abraham Flexner of the Carnegie Foundation, recently published, no longer leaves the public any valid excuse for their ignorance of or apathy toward the prevailing conditions. As a result of the effect produced by this report, a considerable number of low-grade medical colleges throughout the country have been compelled to close their doors. In this connection, let me quote from the late Dr. M. H. Richardson, an honored Fellow of this Society; a man who was himself the personification of the best type of surgeon, and who represented the highest ideals in the profession. He says: "The task before me is a serious criticism of what is going on in every community. There is to my mind no doubt whatever that surgery is being practised by those who are incompetent to practise, by those whose education is imperfect, who lack natural

aptitude, whose environment is such that they never can gain that personal experience which alone will really fit them for what surgery means today. They are unable to make correct deductions from histories, to predict probable events, to perform operations skilfully, or to manage after-treatment."

What a scathing criticism of our beloved profession, and the special sting of it lies in the fact that it is unfortunately only too true! Let us for a moment consider this question, for it is fundamental to the production of sound judgment, and let it be understood that what is here said is said in no "I am holier than thou" spirit, for every honest man knows that he makes mistakes, both of judgment and execution, and the writer is no exception to this rule.

From the very nature of the case, surgery must be considered as a specialty and the attributes of specialism are insight, knowledge, and experience, and their proper application to practice is impossible without thorough comprehension and mastery. This can only be properly done by one who has been trained from his youth up, and who has been thoroughly well grounded in the fundamentals of the science. Unless one knows and thoroughly appreciates the principles concerned in the handling of tissues, in the repair of wounds, in the causes and results of inflammation, in the characteristics and manner of growth of malignant disease, in the principles of physical science involved in the production and reduction of fractures and dislocations, and in a hundred other points of importance, which time would fail us to mention, he cannot ever hope to get a thorough grasp of questions which are vital to the complete understanding and proper management of surgical problems of every-day occurrence.

It has been said that a surgeon, like a poet, is born, and not made. Personally, I do not believe that this statement is altogether true. Unquestionably, some individuals are born with a natural aptitude for surgery, a something which

has been characterized as the "surgical instinct," and which every teacher can recognize at once as present in varying degrees in the medical students under his care. It is very far from the speaker's purpose to belittle in any way the art of surgery, which is of very great importance, and which in the hands of some skilled operators has certainly become developed to the highest degree. It must be conceded, nevertheless, that however high a pinnacle the art may occupy, the science of surgery will always overshadow it, and unless one is well grounded in the principles of true scientific surgery, it must degenerate into something of a trade or a sort of sleight-of-hand performance.

My honored preceptor, the late Dr. John Homans, of Boston, a man of wide experience and excellent judgment, and possessing in an unusual degree the characteristics and knowledge which we have been endeavoring to describe, remarked upon one occasion, "Any fool can cut off a leg; it takes a surgeon to save one." This very well illustrates the point I am endeavoring to make. Surgery is not alone an art. There is a wide distinction between operator and surgeon. The day of the barber surgeon is over. It is a science founded upon certain fundamental principles, without a thorough knowledge and understanding of which, no man can do his patient or himself justice.

Now what is the application of all this? If our premises are correct, the conclusion is obvious, namely, that no doctor, no matter who, without a thorough surgical training, has the moral right to attempt to make a practice of surgery. He may succeed in doing certain minor operations or even certain major operations well, he may learn to do, mechanically, certain things fairly satisfactorily to his patient and to himself, and he may have a fair percentage of success, but sooner or later he will meet his limitations, and in attempting to go beyond these, with his limited and imperfect equipment, some of the catastrophies of surgery are liable to happen, and then who pays the price of his

ignorance and temerity? Yes, let me repeat, surgery is far too serious a matter to be lightly undertaken by those who are not thoroughly trained in the fundamental principles underlying its proper performance: Right here let me sound a note of warning, and in so doing I do not wish to be misunderstood—the tendency nowadays is toward the multiplication of hospitals, a tendency that is to be encouraged under proper safeguards. With the general proposition that a hospital is the only place in which to be sick, that is, surgically sick, I am in the heartiest accord, provided only that the hospital is under proper management, and that the surgeon, for I am speaking now only of the surgical aspects of the question, is thoroughly competent to handle surgical cases. But what do we see? As a matter of fact, in my own State, and I think that it probably is a correct index of the situation throughout the country, hospitals are multiplying in many of the smaller towns, towns of a few thousand inhabitants, where there are few or no skilled surgeons, and—here is the danger—where the general practitioner, against his better judgment, is tempted to essay the role of surgeon. There are two general reasons for this, aside from the undesirability of performing any operation in a private house. In the first place, the responsibility for a surgical operation in a private house is undivided. The surgeon alone is responsible for the good or bad results, whereas in a hospital it is somewhat different. The cause of this is not easily explained, but it is true, nevertheless, that in the case of a patient operated upon in a hospital, there is not the same feeling of individual responsibility upon the part of the surgeon held by the community at large, as in the first instance. In the second place, under cover of the hospital, and in the more or less seclusion of its operating room, the would-be surgeon is tempted to do things that he would not dare to do under other circumstances. Particularly is this true, and this is no joke, where the operating room is furnished with all the modern appli-

ances of the up-to-date hospital. I have in mind now a certain beautiful operating room in a hospital in a small city, a room walled and ceiled with marble, finished with polished brass and shining glass, everything in it of the costliest description. What is the result? It would appear to the uninitiated impossible in such a hygienic sanctuary, to commit a surgical sin, and yet one constantly sees in that operating room heinous crimes committed against the most fundamental surgical principles and technique, which ought always to be kept inviolate. And why is this? Because of those who habitually use this room, not one is a trained surgeon, they have, so to speak, just picked it up. In the gradual evolution of this palpably wrong condition of affairs, the surgeon himself, or more strictly speaking, some surgeons are not wholly blameless. There is no royal road to surgery. There is no such thing as surgery made easy. There is no trick about it that can be learned in a ten-lesson course by watching the manual dexterity of some specially clever operator, and hearing him vociferously declaim against the old, accepted principles of the fathers and the newer scientific or so-called laboratory methods. It is easy to be led by such false gods into believing that anybody can perform a surgical operation; it looks so easy, and it seems so simple as they do it. But do not be misled into the fatal error of supposing that this is all there is to it. It means a long, hard journey, years of close application and study, of mental and manual training, of observation and investigation in hospital ward and laboratory, before a man can acquire the experience, the insight, the judgment in sufficient degree to entitle him to the proud distinction of being rightly called a surgeon, and all that it implies. Says Valentine Mott, than whom I know of no one better qualified to judge: "We regard those as surgeons and those alone who have by conscientious devotion to the study of our science and the daily habitual discharge of its multifarious duties, acquired that knowledge which renders the

mind of the practitioner serene, his judgment sound, and hands skilful, while it holds out to the patient rational hope of amended health and prolonged life." (Quoted by Barnesby.)

The remedy for all this is obvious—do not abolish hospitals, but restrict the practice of surgery to the trained surgeon. There would then be no further excuse for such books as that which has recently appeared by Barnesby, entitled *Medical Chaos and Crime*, much of the contents of which is unfortunately only too true.

There is also a moral side to this question. The inexperienced operator, owing to lack of proper training and insufficient experience, is often necessarily at fault, both as to his judgment and execution. He is attempting to do something that, in the vast majority of cases, he is not competent to do for the reasons above mentioned. He is placing himself in a false position before the community, and is laying himself open to charges which in the present enlightened condition of the public, and certainly in some parts of the country, it would be difficult for him to disprove. There are those in every community who, stimulated by shyster lawyers of the ambulance-chasing type, are not slow to take advantage of every mistake, or fancied mistake, upon the part of the operator. It is well, therefore, for every doctor, no matter who, before he essays the part of surgeon, to weigh well the responsibilities that are involved. He should be in a position to prove to an intelligent jury that he has given his patient the benefit of skill equal at least to that which can reasonably be expected from the average well-trained surgeon. This, it appears to me, would be difficult, indeed, impossible for the untried operator to do. The thoroughly conscientious man will think twice and go very slowly before allowing himself to be forced, through an error in judgment, into this position. Of course, I am not now referring to those cases of emergency surgery which every physician at times is called upon to

perform. In these instances, common humanity and surgical instinct demand that the best be done for the patient, and that immediately, even to the extent of a capital surgical operation, in order to relieve his suffering or to save life, pending the arrival of the skilled surgeon. Then, too, this matter of operating by those not prepared for it, tends toward the lowering of moral and ethical standards in other directions. It is a great temptation to do this, sometimes because the vast majority of doctors are dependent for their living upon the returns from their practice, and it frequently means a great deal for a doctor to turn over to the surgeon a good patient, perhaps wealthy and prominent in the community, in which event the surgeon, after the operation, collects a substantial fee, while the doctor too often receives little or no recognition or pecuniary return for his advice and services.

The cure for all this is to come by enforcing the highest standards in medical ethics and in medical education, and it is to be hoped, an added hospital year as a prerequisite to practice.

It is our duty, yours and mine, to see that medical education is limited to those institutions that can and do give proper opportunities to their faculties and students, and who have sufficient back bone to hold both strictly to account. We should also strive to get public sentiment aroused in support of this necessary advance. The signs of the times are fortunately most encouraging; a widespread and intelligent interest is being taken in educational problems. Particularly is this true of medical education, with a resulting increase in moral and material support. Encouraging, too, is the growing number of medical schools that are fighting, against tremendous odds, to modernize their equipment and methods of instruction, to foster research and idealism, and to turn out only such graduates as any one of us might welcome in case of sickness, and to whom we can cheerfully intrust the future maintenance of the

highest medical standards and the progress of medical science and practice.

The point which we have been endeavoring to make clear, and it is the basis of our whole argument, is that education, broad, long-continued, careful, conscientious, comprehensive, thorough, is the foundation of all good, sound, surgical judgment, and that without this previous training there is, in truth, no such thing.

Says President Hibben, "Our general knowledge serves to illumine the specific portion of it, which is the special object under contemplation."

The close relationship existing between experience and judgment has already been referred to. His accumulated experiences are of value to the surgeon only insofar as they are correctly interpreted. They may become a source of positive harm if they are improperly understood or applied. Indeed, the larger the experience one has had, which has been misunderstood or improperly interpreted, the more dangerous does that surgeon become, for his judgment will eventually be so vitiated and warped thereby, that in his mind right may become wrong, and wrong, right. This condition of affairs may be observed in almost every phase of life, in politics, in law, in medicine, even in theology, for what is Christian Science, that bastard offspring of an unholy union between pseudoscience and false religion, what is it but a false interpretation of certain phenomena, the existence of which is well recognized? It has been well said of it that "what is true in it is not new, and what is new in it is not true." What of the various "isms" with which the history of medicine is punctuated? What of certain political dogmas that have from time to time held temporary sway in our own and in other lands? All founded upon false theories, the result of a misconception, an improper interpretation of facts, real or imaginary. Are our own individual experiences always accurately observed and recorded? Are they properly interpreted? And when trans-

formed into action, mental or physical, are they always wisely governed by judgment, ripe, sound, born of accurate observation, correct record, proper interpretation, sane reasoning? Are they?

Shakespeare, whose wonderfully accurate observation entitles him to be heard upon almost any subject, has this to say: "Experience is by industry achieved and perfected by the swift course of time." How very true! The same idea is in a measure conveyed by the adjective most often employed in describing the individual whose experience is such as to entitle him to be heard, and his judgment to a measure of respect above that of his fellows, namely, "ripe." The surgeon, who by his industry in seeking out additional opportunities for observation along all lines pertaining to his profession, by his painstaking accuracy, by his time-consuming thoroughness, by his careful attention to irksome routine and detail, both in examination and record of his cases, and by burning the midnight oil in the study of the recorded experiences of others, and in mature reflection upon those of his own, has at last, his judgment mellowed like ripened fruit, become "perfected by the swift course of time." He it is who has in truth "by industry achieved" experience and a sound judgment.

"In the investigation of any subject concerning which we regard ourselves entitled to a judgment, not only should we seek as wide a range of observation as is possible concerning the facts upon which we found the judgment, but we should acquaint ourselves also with what other men have thought and written upon the subject. This is to be done, not that we may slavishly acquiesce in their judgment, but that by a critical examination of all that is known and reported, we may be the better able to defend our own position or the more reasonably to modify or to abandon it, as the case may be." (Hibben.)

What is it that constitutes good surgical judgment? Is it something that is born in a man and not made? Is it a

thing that one man has without working for, without trying especially hard to get, and which another cannot acquire, no matter how hard he may try? When present as one sees it now and then in certain individuals developed to a marked degree, how does it manifest itself? Can it always be recognized and defined when present, or is it a quality that can better be understood than described?

Before proceeding to define this particular process of the mind, let us try to analyze it a bit, and consider some of its more important characteristics, also some of the aids that may be made use of in its acquisition, as well as some of the more common errors in the way of formulating correct judgment. To begin with, then, one of the most important characteristics of judgment may be defined as insight. By this term, one means some kind of knowledge, but the word has a certain peculiar significance whereby we distinguish what we call insight from knowledge in general. A man knows the names and faces of his acquaintances, but he has some sort of insight into the character of his familiar friends. A physician knows the way to his office where he sees his patients, but if he is a successful doctor, in the highest sense of the term, he has insight into the structure and functions of the human body in health, the nature and laws governing disease, its various manifestations, its causes, methods of prevention and cure. He must have an intimate knowledge of human nature in its varying moods and phases, he must know something of therapeutics and the action of drugs. He must know something of the fundamental sciences of chemistry, physics, bacteriology, biology, physiology, and psychology, etc. He must know something of the indications for and the methods of use of the various instruments of precision used in his calling. In short, insight is a name for a special sort and degree of knowledge, that unites a certain breadth of range, a certain intimate acquaintanceship, a certain breadth of grasp, a certain closeness of intimacy whereby the one who has insight is brought into near touch with the objects of his insight.

“It gives us a view of some connected whole of things, of cause and effect. We can only truly gain this insight when our acquaintance with our object is coherent, close, and personal. It can never be obtained at second hand, many things can be learned by rote and by hearsay, but if you have won insight into your profession, you have won it not without the aid of your own individual experience.” (Royce.) Yet experience, characterized by Hippocrates as fallacious, and admitted by common consent to be such, is not of itself sufficient to produce insight, unless the coherence, the breadth of range, the ability to properly correlate and interpret are also present. This insight is not always confined to the scholar or to the learned, but may belong to the unlearned as well. Many otherwise ignorant and unskilled people have won a great deal of insight into the matter that intimately concerns them. Many very erudite and learned people possess little or no practical insight into anything. Why is this? Simply because accurate observation, the proper association of cause and effect, the ability to discriminate between the important and the unimportant, in short, the knowledge that has been gained, is in the former case coherent and personal, while in the latter it is vague and impersonal, and cannot, therefore, serve any practical purpose.

It goes without saying that honesty is fundamental to the production of good judgment. This fact is at once recognized by the laity as well as by the profession. If the slightest suspicion rests upon an individual as to his entire good faith, how quickly and how hopelessly is his opinion upon any matter discredited. How can any one reach a proper conclusion who has been dishonest in his premises? How easy it is to fall into dishonest ways, not intentionally so, perhaps, nor willingly, but nevertheless dishonest. Thoughtlessness, possibly even carelessness, as to methods, too much haste in the endeavor to do more than one is able to do properly, lack of thoroughness, neglect to make use

of instruments of precision, of advanced knowledge and up-to-date methods, all essentially dishonest practices tend to vitiate one's judgment.

The value of keen and accurate observation cannot be well overestimated. It is the straws that tell which way the wind is blowing, and so it often is in drawing conclusions, or in the matter of judgment, as between two possible views or courses of action. The one whose powers of observation are ever on the alert, trained to see the slightest sign, will often almost unconsciously, by a reflex, as it were, detect certain differences which to another would be entirely lost, or if noticed, would mean nothing, but to him point with unerring accuracy the way to a correct solution, it may be, of a difficult problem. It is well known that now and then in the course of a physical examination the seemingly important facts elicited may tend to mislead, while some at first apparently trivial and unimportant observation may subsequently prove to be the key to the situation. This is especially true in matters of diagnosis. I am sure we can all recall numerous incidents of this in our own experience.

What, for instance, is the significance of the sudden cessation of pain occurring in the course of an appendicitis? Is it a good or bad sign? How about its relation to changes in the pulse-rate? What about that suggestion of dimpling in the skin overlying an otherwise harmless appearing tumor of the breast? What is the meaning of the so-called "air-hunger" which may be the first recognizable expression of an unsuspected, internal, concealed hemorrhage? It is not chance, it is not having one's luck with one that enables one observer to recognize at once these from among the mass of irrelevant matter as the facts of real import, while to another their true significance is entirely lost.

The faculty of accurate observation can be increased by acquiring the habit of examining everything within the field of vision. We fail to see many things because we fall into the easy way of passing them by without noting their

presence or appreciating their significance. It was said of Charles Darwin by his son that: "He wished to learn as much as possible from every experiment so that he did not confine himself to observing the single point to which the experiment was directed, and his power of seeing a number of other things was wonderful." (Quoted by Hibben.) The open-eyed vision is the prime requisite for scientific investigation. This faculty can be encouraged and developed in students by their teachers and it can be done, it seems to me, far better than in any other way, by individual instruction and bed-side observation. Just here comes in the great benefit of dispensary and ward instruction in small groups, where the student can live, as it were, with the patient, and where the instructor can, man to man, discuss with the individual student the various clinical phenomena as they develop, and give to each single symptom observed its true weight and significance. Didactic lectures and teaching undoubtedly have their place in medical education, they have rendered excellent service in the past, but nothing can take the place of the personal contact, the marked individuality which a real teacher possesses and which is unconsciously and indelibly stamped upon his pupils. What more striking example of the truth of what has just been said than is furnished in our own profession by the great Billroth, who for a generation was the leader of surgical thought in Europe, and who himself, during this period, trained those who subsequently became themselves the heads of the best of the great German clinics. His genius is reflected today and may be seen and easily recognized in that one of his illustrious pupils still living, Professor von Eiselsberg, of Vienna, a shining example of the possibility of combining in the same individual the highest scientific attainment, remarkable technical skill, a charming personality, and crowning all, a judgment that seems almost inspired, a living, speaking likeness of his great master.

It would appear to the speaker that the career and accom-

plishment of this great teacher is an irrefutable argument in favor of the possibility of developing in students the power of perception, the scientific spirit, the accurate analysis, the clear judgment which makes them masters and leaders of men. For it is inconceivable that it was a mere matter of chance that brought together in his clinic a body of men of superior intellectual and professional attainments which must of necessity, and in spite of, rather than because of his influence, rise to the top. Undoubtedly Billroth was an excellent judge of men, and was able to pick out of the crowd as his personal assistants those of superior ability and capable of the highest development. This was but an additional evidence of his own good judgment which was so abundantly shown in other ways. What an inspiration and example to all of us teachers and practitioners as well to follow and to emulate.

How often one sees reflected in the student the methods of thought and action of the teacher, a pet phrase, a characteristic pose, some particular idiosyncrasy which brings to mind immediately and unmistakably some strong personality under whose influence, during the formative period of his life, this particular individual has come, or one is often impressed with the widespread influence exerted by the teachings of certain particular schools. Here habits of thought are established in certain well-worn grooves, which may be handed down from generation to generation, practically unchanged. Methods of action are thus influenced to such a marked degree by precedent and custom, that the wheels of progress may be greatly retarded, and advances the efficacy and value of which have long since been established indefinitely delayed. Take, for example, the question of choice of anesthetic and the method of its administration, both in this country and abroad, for the past twenty-five years, and compare methods and results. Progress on both continents has been and is still being delayed, and much unnecessary suffering and discomfort, as well as an appre-

ciable percentage of mortality induced, the direct result of too close imitation and too slavish following of discredited precedent, though often the offspring of eminently respectable parentage. How important, then, for teachers as well as schools, for the teachers primarily make the schools, to stand only for the best in everything in the educational world, in the language of the present-day political vernacular, to be progressively conservative or conservatively progressive, "to prove all things, to hold fast that which is good."

The exercise of judgment, then, does away with the blind following of precedent. It is at times far better and more courageous to discard old precedent and to create new, founded upon correct observations, whether original or not, upon sound conclusions, whether at variance with preconceived notions or so-called authoritative utterances or not, than blindly to accept and to follow supinely an authority, no matter how eminent. In these days of more independent thought and action, authority is not so widely recognized or so highly respected as formerly. While this present tendency has much to commend it, there are certain evident dangers to be pointed out and avoided. In casting off the old, there is the danger of taking up with new and false gods. Fortunately, for surgeons and patients alike, there seems to be less tendency nowadays, perhaps than formerly, to follow certain fads. The days of reckless and indiscriminate operation upon the pelvic organs of the female, of nephrorrhaphy, of gastro-enterostomy, of cholecystectomy, are happily past. The stomach and the gall-bladder are still on the firing line, but the seat of war seems to be gradually shifting to the large bowel and the tonsil. There will probably always be found those whose judgment will be carried away by their enthusiasm for something new, by their eagerness to follow the prevailing fashions in surgery as in dress, but it will also be found that the surgical judgment of such is as hobbled and narrow as the up-to-date style in skirts. It is truly wonderful with what facility the

Aladdin's lamp of the faddist can, for him at least, instantly convert fancy into fact, and thus render an otherwise valuable member of society, or an association of such, not only of little real value, but it may be a positive menace to the human race. Witness the senseless ravings and false accusations of the various societies of the "anti's," the antivaccinationists, the antivivisectionists, etc. Nothing is more fatal to sound reasoning, nothing so productive of mental strabismus as the fad and the hobby.

As has already been suggested, judgment is not always the result of logical processes readily apparent. The line of reasoning is not always easy to follow, indeed at times it cannot be followed except by very close study and analysis of the intervening steps. There may be a sort of Sherlock Holmes method about it, which is not readily understood by the ordinary individual, but which when carefully analyzed, will show that the conclusions arrived at are no more than this, the result of happy chance or good luck, but are the inevitable result of close observation, of attention to the minutest detail, of intelligent thought, of sound reasoning. When this is done, the conclusions must inevitably follow, and they will be right or wrong just insofar as these various intellectual processes have been intelligently and correctly carried out. But there are other factors concerned. One must not be misled into thinking that it is a sort of rule of thumb, a sort of picture puzzle, the pieces of which have been cut into all sorts of fancy and bizarre shapes, and that it is simply a question of mechanically fitting them together. Not at all! Here as everywhere else imagination, constructive imagination, is of the greatest help. As could the great Cuvier, when given but a single tooth, construct the entire skeleton of a prehistoric animal, so can one in his imagination weave the entire pattern from here and there a few broken and tangled threads, supplying those that are missing, and mending those that are broken, until at last there exists in his mind a picture

of the whole, clear, concise, complete, correct. The idealist, the dreamer of dreams, while not always, indeed, perhaps rarely, of a practical turn, is the one who of all others can penetrate deeper into the unknown, can see further into the mists of uncertainty and doubt, can make lighter the dark places of ignorance and uncertainty with the illuminating power of his imagination. In this connection, however, attention should be directed to the condition that imagination in order to be really helpful must at all times be in touch with fact. "It must represent to the mind not what fancy suggests, but what the known facts necessitate." (Hibben.) The unseen is then constructed out of the determining conditions of the seen, otherwise fancy might run riot, and our judgment and hypotheses resulting therefrom, rendered correspondingly weird and bizarre.

One of the fundamental requisites of good judgment must ever be sanity, or what is known as common sense. One never expects from the insane or the foolish an opinion that is really worth anything upon any subject. Unfortunately, however, one need not be an inmate of an asylum for such unfortunates in order to give occasional expression to opinions or exhibit actions worthy of them. Only too frequently one sees in the medical press articles expressing opinions, making suggestions, even giving advice, that one would not ordinarily expect to hear outside the walls of such an institution. It is humiliating to have to admit in such an assemblage as this that some of us, and the speaker feels constrained to include himself in this number, are at times guilty not only of giving advice, but of performing operations, and in such a manner that in the light of further knowledge, more painstaking examination, more careful consideration, more time taken from a life overcrowded, perhaps, with the humdrum of routine and detail, puts us to shame, and which, if we are truly conscientious in our work, effectually prevents any tendency toward the pride and conceit of life. Some people are by nature, perhaps,

more sane, more stable, more normal in their mental processes than others. Some people are perfectly sane on some subjects and not upon others. It is extremely difficult at times to distinguish between the sane and the insane, between the sound and the unsound judgment. "*Sanus mens in corpore sano,*" is a trite but true saying.

It does not, however, necessarily follow that a sane mind and good judgment will always be found in a healthy body, nor will an unhealthy body necessarily always be found to house an unsound mind. But universal experience bears out the contention that a mind free from the distractions and worries that necessarily attend upon physical infirmities of one sort or another, or from the cares of business, is in much better condition to grapple with the manifold problems of disease, of diagnosis, and treatment. In our busy lives, filled to the utmost with endeavor to help and relieve others, we are prone to forget self, a virtue always to be cultivated within reasonable limits, but the trouble with us is that we are apt to go to the limit of our endurance, and frequently beyond. Thus in our praiseworthy efforts to relieve others, and in our very self-forgetfulness, we often tend to defeat the end for which we have been striving, namely, to give our patients the very best that is in us in the way of advice and treatment, which are in turn the result of our experience, ripe, wide, wisely interpreted by a brain properly working, which is not already tired out by ceaseless work and worry, and a judgment unwarped and unclouded by the pessimism engendered by a torpid liver or a disturbed digestion.

There are negative as well as positive qualities that go with good judgment, which if not of such high order, perhaps, as the others, are nevertheless of great practical importance. In matters involving action, surgical treatment, operative as well as non-operative, it would be difficult to overestimate their value. In this connection, Billroth has written, "Years and experience bring in their train a certain

degree of hesitancy." One frequently hears the terms radical and conservative applied to surgery and to surgeons as well as to things political. What is their meaning but that one individual or class of individuals is apt more or less blindly to do certain things under given conditions, while the other group is more likely not to do so. A favorite saying of a well-known surgeon, a man of action, but, at the same time, of unusually good judgment, was "Nine men out of ten will know what to do under given conditions, but the tenth man will know what not to do, and he is the most valuable man of the ten." The truth of this saying, I am sure, has been demonstrated upon more than one occasion to everyone in this assemblage. The conservative surgeon is one who will take the time and the trouble necessary to observe his patient for a season sufficiently long to enable him to get some sort at least of a comprehensive and intelligent grasp of the situation before he is willing to express an opinion that may commit him to a definite line of action, especially when that action involves the performance of a surgical operation, however trivial it may appear. For none know better than the experienced surgeon what far-reaching possibilities for good or for evil are lurking behind every surgical procedure. There is such a thing, of course, as overcaution which leads to inactivity and hesitation when resolution and action are urgently indicated. There are times in the experience of every surgeon when the exigencies of the case demand most instant and most radical operation, and when this becomes the height of conservatism, for example, certain forms of rapidly spreading infection, fulminating appendicitis, hemorrhage, beginning malignant disease, etc. Undue haste, however, either at the time of the operation or in the preparation of the case, *i. e.*, operating before the patient is in proper condition or before one is ready to cope properly with any emergency that may arise, are all evidences of poor judgment and are equally reprehensible.

The influence working toward the production of errors of judgment, as has already been indicated, are manifold; far too many indeed to attempt to enumerate them all here. Errors of observation, failure to differentiate relevant from irrelevant facts, or to comprehend the whole situation, limited views, mental astigmatism, preconceived ideas, narrow-minded provincialism, human frailties—all of them play a large part in determining the results of our mental processes. We are so often swayed by prejudice. We are apt to be too much influenced by the character or personality of our patients. We so often see that which we wish to see and fail to see that which we do not wish to see, we are prone to twist the facts to suit the theory, rather than the theory to suit the facts. Thus we deceive ourselves. Our reasoning is at times faulty, "*Post hoc ergo propter hoc*" or "*non causa pro causa*" play far too prominent a part in the formation of our judgments. Our emotions and our passions are given too free a rein. We are so prone to forget that we do not profit as we should by our mistakes. The sacrifice is often for us in vain. As Bacon says, "The human understanding resembles not a dry light, but admits a tincture of the will and passion which generate their own systems accordingly, for man always believes more readily that which he prefers; his feelings imbue and corrupt his understanding in innumerable and sometimes imperceptible ways." (Quoted by Hibben.) This same author, in referring to the errors of judgment due to the common frailties of human nature, has aptly styled them "idols." His enumeration is complete and classic, and is as follows: "Four species of idols beset the human mind to which, for distinction's sake we have assigned names, calling the first, idols of the tribe that is, those inherent in human nature; the second, idols of the den, that is, those peculiar to each individual; the third, idols of the market, that is, those formed by the reciprocal relations of business and society, between man and man; the fourth, idols of the theatre, that is, those

which have crept into men's minds from various dogmas, traditions, and superstitions—all of which tend to clog the mental processes and vitiate judgment."

From this very imperfect review of some of the more important factors, both positive and negative, which go to make up good judgment or to render difficult its attainment, it will readily be seen that with few exceptions, perhaps, those elements tending toward betterment and enlargement of the character and scope of our judgment, are capable of development and improvement, while those idols of the mind, those forces which make for error, and which tend to vitiate and render difficult our judgment may, some of them, at least, be cast down and destroyed, or are by education and experience largely to be eliminated and their influence thereby markedly diminished.

Judgment is then, after all, a thing that can be, to a certain extent at least, acquired by every one. It is assuredly better developed in some than in others, partly by divine gift, born with it, if you will, partly by education and experience. None need despair, however, by conscientious, intelligent application and study to develop the essentials and to avoid the errors, of eventually obtaining a fair proportion, at least, of that most-to-be-desired of all qualities that go to make up a surgeon—good judgment—which, if we were called upon to define in a few words, our answer would be something like this: The ability to discriminate between important and unimportant facts, between the essential and the non-essential, coupled with the ability to draw correct conclusions therefrom. Given, as a foundation, a mind endowed by nature with an average amount of intelligence or even a little more, and of that *sine qua non*, common sense, an even disposition tinged with the milk of human kindness, a keen perception; develop this by education, fundamental, broad, comprehensive, scientific, special; add to this accurate observation, experience "by industry achieved," a familiarity with the work of others

gained through reading and by travel, time taken to properly assimilate all this and rate it at its true value by thought and investigation, a trained hand, insight into this old human nature of ours, and some knowledge of her various moods and vagaries. Crown this with some of the virtues of the Great Physician, our Master and Teacher, and you have pictured before you the surgeon, fully endowed with that quality which we have but imperfectly described, "surgical judgment," which when developed as we have seen it in the persons of some of our own teachers and friends, both living and dead, is the noblest work of God.