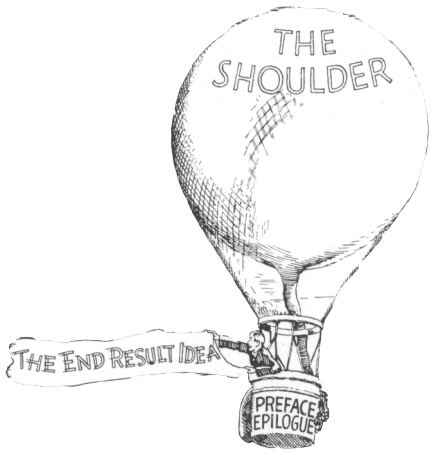


“... the End Result Idea, which was merely the common-sense notion that every hospital should follow every patient it treats, long enough to determine whether or not the treatment has been successful, and then to inquire ‘if not, why not?’ with a view to preventing similar failures in future.”

From “The Shoulder” by Ernest Amory Codman, Thomas Todd Publishers, Boston, 1934

THE SHOULDER

RUPTURE OF THE SUPRASPINATUS TENDON AND OTHER LESIONS IN OR ABOUT THE SUBACROMIAL BURSA

E. A. CODMAN, M.D.

Acknowledgements

from "The Shoulder" by Ernest Amory Codman, Thomas Todd Publishers, Boston, 1934

THE custom of printing acknowledgments in books which purport in any way to be scientific, seems to me an excellent one, since it obliges the author to reflect on his relatively small share in the *opus*, which, at this stage, he may be inclined to think *magnum*. He is always, I presume, highly elated at having finished something of which he has become intolerably weary, and it must ease his descent to a normal state of mind to list those who have labored for him, although his superiority complex may wilt too rapidly when he realizes the number of co-workers to whom he is indebted. He must also admit to himself the assistance which has come from various impersonal sources, such as the era in which he lives, his inheritances, environment, opportunities, etc., and then try to estimate the degree of excellence which might well be expected in his achievement. Consideration of my own exceptional advantages makes me feel quite humble, but a look at the list of those who have thought it worth while to help me, has just the contrary effect.

The writer of a medical book, when he thinks that he has just completed it, should also reflect on his own education and on the trouble and annoyance he has caused his parents, teachers and fellow students. It is to be hoped that he may answer at least one new question in return for the innumerable painstaking answers he has received. His book will seem a poor return, through science, for the patient efforts of those who taught him the fundamentals of his subject or to those who, bit by bit, built up the basic sciences on which his branch was founded. Not he, but these hosts of individuals prepared most of the book; in fact, all but the doubtful parts which he has presented for possible confirmation.

In my case there is also a great debt to be acknowledged to those whose enthusiasm has built up the *esprit de corps* of the three institutions so often mentioned in these pages. In spite of my gibes I take great pride in having been a product of the Harvard Medical School and of the Massachusetts General Hospital, and in being a member of the American College of Surgeons, which I have seen arise and grow in strength. The latter has already developed a sense of loyalty among its members, which will, some day, take on the indestructible qualities which the spirits of the two former institutions have long possessed. Woe to the writer who permanently offends the sensibilities of such spirits, but

temporary opposition is to be expected from them when improvements are suggested. Such conservatism is wholesome, until a demonstrated truth remains unrecognized.

An author usually admits that there are individuals "without-whose-help-this-book-would-or-could-not-have-been-written." This does not refer to those who discovered the printing press, the microscope, the X-ray, or the dictionary, but to living friends, who by timely flattery, by adverse criticism, by the loaning of talents or money, or, harder still, by faithful drudgery, have contributed to his achievement. I have a long list of such helpers. For instance, I know that I should not have attempted this task had it not been for the blarney of Dr. Francis D. Donoghue, the wise medical director of our Industrial Accident Board. Dr. Henry C. Marble, director of the medical department of the American Mutual Liability Insurance Company, is hardly less responsible than Dr. Donoghue, for he made me convince him by actual demonstration on individual cases, that my essential claims were correct. As for the talents and money and hours I have borrowed, other paragraphs are required.

My cousin, Lady Carter, with a twinkle in her eye, made for me the little sketches in chapter two; Philip Hale, hurriedly but effectively, did the first cartoon on some brown wrapping paper; Miss Piotti and Mr. Aitken have used their recognized talents; Charles D. Vaillant has done most of the other drawings, including not only the second cartoon, but the marvelous lettering beneath it. Dr. Akerson is among my artists as well as among my "without-whom's," for he has illustrated, as well as contributed, essential and enduring evidence for my argument. Dr. Fordyce Coburn gave his experience to a review of my manuscripts and has diminished my literary blunders, and so has Professor Lewis in the case of two chapters which relate to his field of anatomy. Professors Ewing, Mallory and Wolbach have helped me to study the pathology, especially that of bone tumors. I also register my thanks to two assistants who contributed many hours of drudgery, although I am sure it did them no harm. Dr. William M. Stevenson reviewed for me the literature on fractures and dislocations about the shoulder, and Dr. Roy E. Mabrey prepared much of the chapter on Rare Lesions. And think of the hours which Dr. Stevens must have spent on his chapter!

A dog may bark up a tree a long time before any one comes to see what is up in the branches. For twenty years I bayed, though not

continuously, about the frequency and importance of rupture of the **supraspinatus**, and I owe a debt to Dr. Philip L. Wilson, the first prominent surgeon to take time enough to study the evidence that there was something at which to bay. His paper, three years ago, definitely put this lesion on the list of those which industrial and orthopedic surgeons should recognize and treat. Who will now put it on lists in order that the family doctor may not only promptly recognize it, but may know who, in his locality, has studied the subject enough to be qualified to suture the **tendon**?

There is a firm of printers in Boston, old and respected, and noted for its reliable work. Thomas Todd and Company are not publishers, although they have printed many books, usually for private circulation. They have not interfered with what I have written, but have painstakingly, graciously and cheerfully aided me in every way. Their staff and employees have shown the greatest consideration for my foibles and fussiness, and have let me superintend, in every detail, the arrangement of the text, charts, tables and illustrations. They are not to be censured for any of the offences herein displayed, against conventional book structure or content, and are only responsible for the printing, and for loaning the money to have it done. I hereby record my gratitude, and hope to return the money.

Preface

from "The Shoulder" by Ernest Amory Codman, Thomas Todd Publishers, Boston, 1934

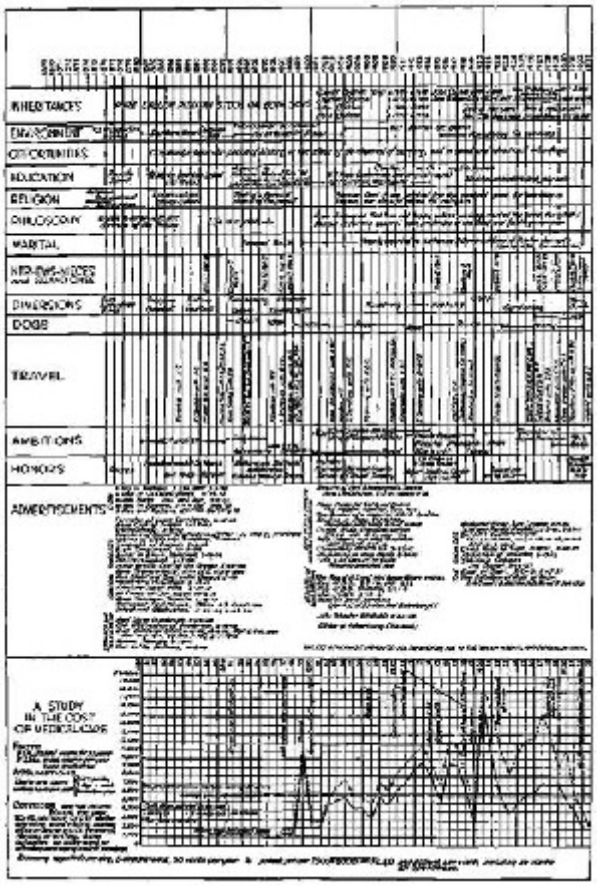
THE PREFACES in medical books, particularly in those that concern new fields, are often too brief and impersonal. If an author has conscientiously labored to present his material in clear English, properly punctuated and painstakingly illustrated for the benefit of the reader, surely he deserves to be allowed to indulge himself in his preface. Let him try his sense of humor, however heavy it may be, let him ride his hobbies, relate his favorite anecdotes, tell his life history or otherwise endeavor to please himself. Despise these amusements if you must, but do not forget that they are the normal pleasures of the average man, especially if he is over sixty. No one is obliged to read a preface, but in it the author should introduce himself to the reader and give him a glimpse of his own personality, amusements and intellectual processes. Both author and reader, before they begin any serious study, should enjoy themselves after the example of a pair of interlocking directors beginning their business with some passable golf, a shower, a rubdown, a cocktail, dinner and coffee, before they go to work. These good business men may have heard each other's stories before and may thoroughly distrust one another, but the exercise, the glow, the comfortable, warm, satiated abdominal sensations, predispose not only to digestion but to reasonableness. A preface should produce a similar mutually-forgiving human state of mind, and give the reader and author a certain percentage of trust in one another—of course not complete.

Another advantage of this type of biographic, conversational, light, perhaps flippant preface, might be a chance that the book would be of permanent value, for most medical books are scarcely more enduring than shooting stars, in fact many are obsolete by the time they are published. Hence a preface, serenely, frankly, kindly and even egotistically written by a happy, understanding soul, might preserve a volume through the centuries, although the subject matter of the book might last only a year.

I want egotism in my author or teacher. I want to know what life he has led, what were his aspirations and what are his regrets. Let him be as unconventional as he wishes, but let him refrain from even customary lies and give freely of himself. Things which have become conventionalized like prefaces, funeral services, wedding vows, and legal preambles are to be suspected of evading responsibility. Give me something that is

different, for there is a chance of its being better. Voluntarily to be different is to take responsibility and every sentence in an original book might begin with I, for the author only is to be judged.

Necessity for economy compels me to reduce my life history to the accompanying chart, and to refrain from describing many incidents which



have been exciting and amusing or of absorbing interest to me, personally. It is my intention to comment mainly on those events which concern my work on the shoulder and on what I term the End Result System of Hospital Organization, on propaganda for which I have spent most of my energy, including that expended during the last five years on this book. Meanwhile I have had to earn most of my living and therefore present income curves on the chart to permit me to introduce a necessary part of my thesis, the cost of medical care, a subject that has much to do with Hospital Organization.

I was a conventional enough Boston-Harvard boy, with relatives and acquaintances among the well-to-do, and took two years in the Harvard Medical School with success, and in the third winter had the opportunity

to travel in Europe and Egypt with a friend, on the understanding that I could spend as much time as I wished at the Clinics in the various cities we visited, London, Paris, Berlin, Vienna, Cairo and others. This experience and some study on the way enabled me to pass my third-year examinations and to get my degree on my return.

It was in Vienna that my attention was first attracted to the subdeltoid bursa, because it was mentioned in a little book by Dr. E. Albert ("Diagnostik der Chirugischer Krankheiten." Alfred Holder, Wien, 1893). I had never heard this bursa spoken of at home by my teachers, nor do I think it was mentioned in American medical literature at that time. Soon after my return I served two years as surgical interne at the Massachusetts General Hospital in Boston, and during this period, sometimes made diagnoses of subdeltoid bursitis, which were ignored by my seniors. Starting practice in 1895, I became Assistant in Anatomy at the Harvard Medical School, and, for several years, having many opportunities to dissect the bursa and to study its pathology, I gradually came to appreciate its clinical importance. Appointed Surgeon to Out-Patients at the Massachusetts General Hospital (hereinafter M. G. H.) in 1899, I began to have great clinical opportunity, and treated many patients on the diagnosis of bursitis. My first paper mentioning the subject was in April, 1904, although previously at the request of Dr. Mum-ford, then Chairman of the Staff Meetings, I had presented a *resume* of my work, demonstrating many anatomic specimens and some patients. This attracted the attention of Dr. George Crile of Cleveland, who invited me to read a paper on the subject before the Medical Society of that city. Flattered by this invitation, I wrote a paper with great care and it was well received. During the discussion Dr. Carl A. Hamann of Cleveland mentioned a paper by Kiister published in 1902. I had, at that time, never seen this article, and, though I am frequently quoted as having been the first to describe subdeltoid bursitis, this paper shows clearly that I was not. After seeing Kuster's paper, I adopted his name of subacromial bursitis as better than the term subdeltoid. My work was original so far as I knew at the time, and it was pleasant rather than the reverse, to find that the great surgeon, Kiister, had also thought it worth while to write even a short paper on the subject.

Through much of my life I have suffered somewhat from a sense of isolation, because I have always been thinking, or saying, one thing or another, with which other doctors did not agree. This, in my early years,

made me suspect myself of being peculiar, so that, from time to time, I would conform again to general opinions which I knew to be irrational. Even now I have this sense of isolation, although I have become more and more content to wait for acceptance of my views. My regrets are for wasting so much time on the opinions of a previous generation and not realizing that it was the approval of my pupils, rather than of my masters, that was desirable.

When I have given a great deal of study to a subject, I am apt to think I know more about it than those who have not studied it. This confidence probably came because I often stood at the head of my school and yet I have never been able to form very strong opinions on the probable results of races, elections or in futures in the Stock Market, as do many of my friends who were not good scholars. They know whether or not a certain man should be President, whether we should or should not go to war, or even what church to attend, whereas I am in doubt about such things. I am inclined to be impatient with others who do not accept my views on subjects to which I have given much attention, but if any one else has also given such study and does not agree with me, my confidence in my opinion is readily shaken. Thus, I was greatly pleased to find that Kiister had agreed with me, or I with him, for I was no longer isolated in my opinions. The fact that he had priority was of no significance to me then. I did not realize that it was Kiister who should be pleased because I had sustained his ideas, for now my pleasure comes from having younger men agree to ideas which my contemporaries rejected, or accepted very reluctantly.

It so happened that Rontgen made his announcement of the discovery of the X-ray in December, 1895, at just the time when I started private practice, with the intention of becoming a surgeon. Believing in its importance to surgery, I at once started to learn the technique and sought the help of Professor Trowbridge of Harvard, and also that of Professor Elihu Thomson of the General Electric Company at Lynn. Perhaps it is not generally known that apparatus similar to that with which Rontgen worked had existed for a number of years in many other laboratories. Experiments had been performed to study the effect of electric currents in a vacuum tube invented by Professor Crookes of England. The apparatus had been of great theoretic interest to physicists and was used to produce cathode rays whose paths were chiefly inside the tube. It is said that Rontgen's discovery was accidental because he noticed that a piece of barium-platino-cyanide paper, which happened to be lying on his laboratory table near a Crookes tube, became luminous

while the tube was in operation, and that the luminosity stopped immediately when the electric current, passing through the tube, was turned off.

This observation led to his finding that rays, other than those from the cathode, were generated and were projected far beyond the glass walls of the tube. Having noted this essential fact, he went on with a carefully thought-out series of experiments, which demonstrated most of the important points known today in regard to the X-ray. His first paper was a masterpiece. Since every well-equipped physical laboratory already had the apparatus, his experiments were immediately repeated in many places and his conclusions were at once corroborated. Trowbridge and Thomson were among the first in this country to do this, and I had their most kindly, personal, instruction. Having learned the essential points, I found at the laboratory of the Harvard Medical School similar apparatus and began clinical work early in 1896. For five years I devoted most of my time to the X-ray, although still continuing to work in the Surgical Out-Patient Department of the M. G. H. and to assist the late Dr. F. B. Harrington in the practice of surgery. At the end of five years, having written a number of articles on X-ray subjects, including one on X-ray burns, which is still quoted, I saw that I must choose between surgery and rontgenology. An appointment as Out-Patient Surgeon, a title in those days equivalent to that of Assistant Visiting Surgeon, was given me and thereafter my time was devoted chiefly to surgery.

Meantime, 1896 to 1899, experience with the shoulder continued, and in the Anatomic Department I studied the joints and bursae injected with non-radiable material. In 1898, after two years of these anatomic studies, I presented to the Warren Museum an album, which contained standard X-ray anatomic pictures of each joint of the body in flexion, extension, etc. It was a tremendous piece of work, and for me at that time, a very expensive one. Recently, in poking round the Museum, I came across this album covered with dust. It probably had not been opened since left there. However, the experience had been valuable, for, after completing this study of the normal joints, I became interested in their pathology, especially in that of the wrist, knee and shoulder. Furthermore, the fact that my atlas of the normal joints was not used by my colleagues, was a good lesson to my personal sensitiveness and taught me, to some extent, to postpone hope of recognition of labor. A by-product of these anatomic X-ray studies was the light they threw on the

normal motions of the wrist joint. These I described in a paper in the Journal of Experimental Medicine. I do not think they had been accurately described before, or have been studied much since. This work led to an interest in fractures of the carpal scaphoid and resulted later in a monograph on the wrist, which has since been recognized.

It would be impossible to give the reader an idea of the thrill experienced by those of us who did the early X-ray work. We each made weekly discoveries, only to find that our fellow workers in the same city and in all other cities had made the same ones at the same time. Announcements of new uses of the X-ray, which are now familiar, came with every issue of the Medical Journals. Each of us had the self-importance to think that we were the first to show fractures of various types, to diagnose bone tumors or to locate foreign bodies in new parts of the anatomy. I remember that an early contribution of mine in the *Boston Medical and Surgical Journal* was to show that the X-ray was likely to help us in studying the epiphyseal lines! My plate, which was made with a tube which did not focus, after an exposure of over fifteen minutes, showed the epiphyses in the arm of a dead baby. Yet, what I wrote was then unknown to the great majority of readers. We almost forgot that it was all because Rontgen had noticed something which many others might have observed. Probably other things of great importance are showing themselves to us daily, and we look but do not see.

Let any modern Rontgenologist look up my old paper on the wrist, and he will see excellent pictures, taken in 1896, with an old Ruhm-korff coil which Professor Bowditch occasionally used for his physiologic experiments. I remember the Professor's delight when I showed with it, an old bullet in his ulna, which he had carried, without knowing it, for thirty years since the Civil War. Even more delighted was an old lady, who had insisted for sixteen years that she had a needle in her foot, when, after I had located and removed it, she shook it in the face of her doubting family. There were many amusing, exciting and tragic episodes in those days, for we all had burns and some of us gave them. Many of my old friends are now dead from X-ray cancer. It was fortunate for me that my interest in surgery was greater than in Rontgen's discovery.

Side by side with other work, I managed to submit a very extensive monograph for the Gross Prize, which was then given every five years in Philadelphia. The subject was "The Use of the X-ray in the Diagnosis of

Bone Diseases." I had collected the histories, pathological reports, X-ray films and end results of cases of bone disease, just as the Registry of Bone Sarcoma does now. There were even examples of such rare diseases as ainhum, chondrodystrophia foetalis, osteogenesis imperfecta and osteoarthropathy pneumonique. With all this material was a *resume* of the diagnostic points in which the X-ray was of help. The Committee was composed of prominent Philadelphia surgeons, among whom were Dr. W. W. Keen and Dr. J. W. White, and the prize for that year was awarded for an essay on ligation of the carotids in cases of malignant disease of the face! The author claimed that thus starving the growth of tumors by stopping their blood supply was of great help in controlling the disease. The method is now seldom if ever used, yet today, practically everything my paper contained is common knowledge among rontgenologists. It is hardly possible to realize now, that at that time (1905), busy surgeons had no idea of the practical value of the X-ray in the diagnosis of bone diseases, and that the pictures which I presented to this Committee were to them *unintelligible*!

It was not until five years later, when Dr. Keen asked me to write a chapter on "The Use of the X-ray in Surgery," that I could make up my mind to the shock it gave me to feel that my essay had been discarded, for I felt absolutely sure that it was worthy of the prize. This was my second severe lesson in not being in a hurry about having one's ideas confirmed. However, I had great satisfaction in pulling out from a closet the unpublished paper submitted to Dr. Keen five years before, and, with practically no changes, presenting it to him for his book. Not only most of the illustrations, but the descriptions of the X-ray characteristics of various bone diseases, were from the material submitted for the Gross Prize. The chapter still appears in Keen's Surgery without change.

In 1905-1908 I again worked intensively on the shoulder and published my chief paper which has been so much quoted in the American literature.

We younger surgeons at that time did most of the night emergency operations, and in one such case I was able to make a preoperative diagnosis of perforated duodenal ulcer and to successfully operate on the patient. This took my mind from the shoulder to the duodenum, as it was the first case thus diagnosed and operated on at that hospital. Within a short time afterward, I had several others which were also successful. This

led me to study chronic duodenal ulcer, and the shoulder remained displaced behind the duodenum and stomach for the next two years, although my clinical experience with shoulder lesions continued, and unfortunately also, my personal experience as a patient with duodenal ulcer. My chief interest during the next few years was in the surgery of the duodenum. I think I was among the first to appreciate its importance, for I wrote a paper in 1909, when the diagnosis was made so seldom, that I was only able to collect fifty proved instances from our surgical, medical and postmortem records. Of these, eleven were my own cases. I have recently reviewed this paper and was agreeably surprised by the accuracy of the statements as shown by the confirmation of my predictions. However, although working chiefly on the surgery of the stomach and duodenum during this period, I added a point of importance to our practical knowledge of shoulder lesions, namely the demonstration, by actual successful suture of two cases, that ruptured **supraspinatus tendons** may be repaired. I also drew attention to the importance of examining the patient in a stooping position as an aid to diagnosis in these cases.

Thus, in the year 1910, at the age of forty, I was deeply interested in the surgery of the upper abdomen, still studying lesions of the shoulder, steadfast to my general surgery at the M. G. H., and successful enough to be making a reasonable living in private practice. Then began the great and still unsuccessful interest of my life, over which I have toiled harder and suppressed more regrets, than over any other star-gazing period of my career. Already in 1900 I had become interested in what I have called the End Result Idea, which was merely the common-sense notion that every hospital should follow every patient it treats, long enough to determine whether or not the treatment has been successful, and then to inquire "if not, why not?" with a view to preventing similar failures in future. My chief, Dr. F. B. Harrington, and I had been applying this plan practically to our service since 1900. We had found that this routine tracing of every case, interesting or uninteresting, had brought to our notice many things in which our knowledge, our technique, our organization, our own skill or wisdom, and perhaps even our care and our consciences, needed attention.

From the day in the summer of 1910 on which Dr. Edward Martin of Philadelphia and I drove back to London in a hansom cab from the Tuberculosis Sanatorium at Frimly, this End Result Idea has taken the

major share of my intellectual efforts. Martin at once recognized that the idea was practical, and took advantage of my monomania to make me the servant of his own ideas about Hospital Standardization. We were visiting the British Surgeons as members of a small American Association called the Society of Clinical Surgery.

We had been entertained at a grand dinner by the Royal College of Surgeons, and clinics had been given for us by its various members at the London hospitals. Our little society was composed of very active-minded members, most of whose names are under the accompanying photograph. In this traditional environment, talk of an American College was inevitable among such a group. As far as I know the visit to our British confreres was not arranged for this purpose, but it certainly led to the organization of our American College. If any one, with that idea in mind, arranged that trip, he was certainly the founder, for such men would be sure to go home and found a bigger, if not a better, College. I think that it may have been J. G. Mumford's plan, and that he probably at once talked it over with Cushing, for they were the original founders of the Society of Clinical Surgery. Cushing tells me that he had talked of the question with Ochsner even before this time. I do not know how much had been planned beforehand, but I do know that by the end of that meeting, the American College of Surgeons was under way, even if the method of procedure was not definitely laid out.

Edward Martin, after hearing me discourse on my End Result Idea in the hansom cab, caught at it as the catalyst to crystallize the College Idea. An American College would be a fine thing if it could be the instrument with which to introduce the End Result Idea into the hospitals; in other words to standardize them on a basis of service to the individual patient, as demonstrated by available records. As Martin remarked, "the tail is more important than the dog, but we shall have to have the dog to wag the tail." An American College of Surgeons should be formed to standardize the hospitals, and, when that was done, to continue other good works.

The association with the members of this party, who were not only successful as practical surgeons, but most of whom were connected with teaching or surgical research in our American institutions, was very stimulating to me, although I was only an assistant at home, had never had a hospital service entirely my own, and, owing to the seniority system

then in vogue, apparently very unlikely ever to have one. It was also a tremendous stimulus to see the work of the English surgeons, especially that of Mr. Moynihan, at whose clinic I spent several weeks after our official meeting was over. Part of this time I was a patient, and thanks to his skill and a gastrojejunostomy, I was greatly relieved physically, and my zeal for surgery was greatly stimulated mentally. I returned in September, 1910, full of enthusiasm and determined to undertake the following things:

First: To proceed with my work on the shoulder, because it was very clear to me that the English surgeons had not yet become interested in subacromial bursitis or in rupture of the supraspinatus **tendon**. I felt that here was a thing in which, although I could never approximate the contributions of the men with whom I had been associating, I might do my bit, if I could sometime prove in this small matter, that I had added a little to surgical science.

Second: Coming fresh from Mr. Moynihan's Clinic and immensely impressed with his ability to make diagnoses of lesions of the upper abdomen with almost uncanny detail, I wanted the opportunity to demonstrate what he had taught me, and if possible, to progress still further in this kind of work.

Third: More than either of these strictly surgical plans, my talk with Edward Martin and the discussions I had listened to about an American College of Surgeons, took the dominant part in my mind.

I determined that, as any increased opportunity at the M. G. H. was most unlikely since the tradition of a seniority system was so firmly fixed, I would start a small hospital where I would be my own master and could work out my own ideas. I especially wished to make it an example of the End Result Idea. There would be no trustees to consult or other members of the staff to placate, if I wished to state publicly the actual results of the treatment which the patients received. In other words, I would make this small hospital an example of the advantage of an organization based on actual efficiency analyses of the results of treatment.

I set about these plans at once with the result that within a year my hospital was running, and I had two assignments at the M. G. H., one to study shoulder cases, and the other to treat 100 successive cases of ulcers of the stomach and duodenum. I did not succeed in obtaining these assignments without a great deal of trouble, as may be imagined. It was necessary first to convince the rest of the staff that intensive studies of special series of cases were essential for progress, if we were to compete with the large clinics in the neighboring cities where individual surgeons dominated a great deal of material. We had seen the grand old London hospitals being overshadowed by their provincial competitors as an example of such a lack of cooperation. Provided that we each had the spirit to do intensive work on series of cases sufficiently large to make our papers of real value at national meetings, we might still keep our hospital among the foremost in the country and also furnish our community with eminent specialists. Necessarily, if all of our eighteen operators, who shared a service of only 180 beds, were to have a sufficient number of relatively rare cases, each of us must agree to give his major attention to one field.

In search of a convincing argument, I took great pains to look up the end results of our cases of stomach surgery, a total of about 600 in the previous ten years. I tabulated these, not only according to the lesions, but according to the results of each individual operator. These tables offered overwhelming evidence that good results had not been obtained by the eighteen surgeons. There was no chance for discussion, once the facts were reviewed. The rest of the staff, although I was only a junior member, were fair-minded enough to accept the argument and the system of "assignments" was then inaugurated, and still persists at the M. G. H. with the result that some of our operators do have national reputations on the particular lines they have chosen, and yet remain

excellent general surgeons. However, I naturally earned by this campaign a certain amount of hard feeling. My colleagues were very glad to have me attend to the shoulder cases, for nobody else was interested in them, nor has anybody selected that specialty since, although it is now twenty-three years since I studied my series of one hundred.

Meantime, I was stressing the End Result Idea and urging the staff and, through them, the trustees, to make our clinic the pioneer in the movement. Through private donations, I obtained the money to provide an "End Result Clerk," whose duty it was to endeavor to trace each patient a year from the date of discharge from the hospital and to enter the result, as noted by the doctor, who had operated, on an End Result Card. I hoped that the M. G. H. might become the example to which to point as a demonstration of the practicability of using this system. It did to a great extent and I was able to use it after the campaign began. (Report of Committee on Standardization of Hospitals. *Surg. Gyn, and Obst*., Jan., 1914. Not in main volume, but in a supplement on Clinical Congress of Surgeons in back of bound volume, page 7. Another Report of the same Committee appears in the same Journal, 1916, %%: 119.)

I must now digress a little and speak of the Society of Clinical Surgery, which had been in existence a few years before the London meeting in 1910, and was the first of the peripatetic societies organized to meet in different cities to have the members actually demonstrate to one another their operative work and methods of teaching and research. It was undoubtedly the example of this Society which led to the formation by Dr. Franklin Martin of the great meeting of surgeons which came to be known as the Clinical Congress of Surgeons of North America, and which had its first informal meeting in October, 1910, in Chicago. This Congress did not really take shape until the next year in Philadelphia, when Professor Edward Martin was elected President. It met in New York the following year (1912) and Dr. Edward Martin's first act was to appoint two committees; one to organize an American College of Surgeons, with Dr. Franklin Martin as its Chairman; the second, a Committee on Standardization of Hospitals of which I was appointed Chairman, with Dr. W. W. Chipman of Montreal, Dr. J. G. Clarke of Philadelphia, Dr. Allen B. Kanavel of Chicago, and Dr. W. J. Mayo of Rochester, Minn., as the other members of the Committee.

If the subject of the origin of the College ever interests historians,

they may be confused as to the parts played by the two Martins. It is at least certain that the then President of the Congress, Dr. Edward Martin of Philadelphia, appointed Dr. Franklin Martin of Chicago to organize the College. Whether Martin of Chicago had previously appointed Martin of Philadelphia as President of the Congress so that he of Philadelphia could appoint him of Chicago to organize the College, I do not know. I do know that the idea of founding the College, to standardize the hospitals, was in embryo in the brain of the Philadelphia Martin two years before this, between Frimly and London. I clearly remember my own feelings, on arriving at this New York meeting in 1912, on being told that I had been appointed Chairman of the Committee on Hospital Standardization, and was to be responsible for the tail to be wagged. This was proof enough for me of the result of my talk in England two years before, with Edward Martin, about the End Result Idea. He had recognized the zealot in me, and had taken this opportunity to thrust on my Puritan conscience the duty to preach the doctrine I had expounded to him. Certainly he also recognized Franklin Martin's ability as an executive, and whoever made the suggestion, chose wisely in appointing him to head the Committee to form the College. Naturally this appointment interrupted my shoulder work, and for eight years my chief thought was to spread the End Result Idea among the surgeons and hospitals of this country. There was, as yet, no authority and little money with which our Committee could work and propaganda was our only means. Since the other members of the Committee were busy men, the chairman had to take the responsibility and get the approval of his Committee afterward. The opening gun was fired at Philadelphia on ~Mny 14, 1913. Edward Martin, by adroit advertising, gathered an enormous audience in the great hall of the Academy of Medicine and I spoke on "The Product of a Hospital." (Surg. Gyn. and Obst., April, 1914, pp. 491-496.) There was much that seemed very radical in tin's address, and the audience showed itself not only interested, but stirred. I asked and discussed such questions as these:
"For whose *primary interest* is it to have the hospital efficient?

For (1) The patient who seeks relief. (2) The public who support the hospital and in return expect a high standard of knowledge; on the part of their own private physician or surgeon. (3) The hospital itself which, as an institution, has an individuality of its own.Who represents or acts for these interests ?Strangely enough the answer is: No one; it is for the *interest* of no one. It is the *duty* of no one.For instance: For whose *interest* is it to investigate what is the *actual result*

to the patient operated on ?For whose interest is it to insist on the resignation of incompetent old Doctor So-and-So, who is one of the best fellows that ever lived?Who will warn the largest contributor that his agreeable classmate, Doctor So-and-So, is totally unfitted to remove his stomach ? ""There is a difference between interest and duty. You do your duty if the work comes to you, but you do not go out of your way to get the work unless it is for your interest.I>et us make attention to the medical and surgical efficiency of the hospital the *duty* of some one."

I closed the address with the following suggestions:"That each prominent hospital in this city appoint an efficiency committee consisting of a trustee, a member of the staff, and a superintendent.That these committees inquire into the efficiency of their own hospitals with a view to answering the questions which are sure to come from the Carnegie Foundation" (which had just then agreed to help with the movement)."That an example of this kind set by the Philadelphia hospitals would lead to the establishment of similar committees in other cities, and eventually lead to a national organization representing the patient, the public and the individual institutions."

The surgeons of Pennsylvania rose to the occasion and, under the leadership of Dr. Edward Martin, set a grand example. Dr. Baldy did heroic work, and, for a time, Pennsylvania was the shining light of this new form of hospital housecleaning.
The first report of our Committee was read at the next meeting of the Clinical Congress of Surgeons held in Chicago, November 11, 1913, as was also the report by Dr. Franklin Martin's committee which, thanks to most energetic work on his own part, had organized and incorporated the American College of Surgeons on May 5th of that year. Not until four years after this did the Committee on the Standardization of Hospitals become a committee of the College itself, and hence much more potent than had been our first merely suggestive Committee, whose only authority was the informal Clinical Congress. By 1917, Dr. Franklin Martin had produced a very strong, lusty dog to wag the tail of Hospital Standardization. Moreover, in the sixteen years which have passed since then he has kept that dog in a healthy, hearty condition, in spite of the fact, that the incessant wagging of the tail lias disturbed many slumbering hospital trustees and indolent or inefficient hospital staffs. He has given a most interesting account of the formation of the College in Surg. Gyn. and Obst. (1925, 40: 129), but, perhaps owing to lack of space, he does

not mention the work which was done by our Committee during the period prior to 1917, when the cause was unpopular and the College was not strong enough to undertake the expensive practical program.

I think we deserve some credit not only for preparing the minds of those interested in hospitals, but of those who later furnished much of the money with which the work was eventually carried out. I have the greatest admiration for the way in which Dr. Franklin Martin has managed this organization and carried it thus far on its successful career. Nevertheless, although he has actually done the work, it is my opinion that members of the Society of Clinical Surgery, and especially Edward Martin of Philadelphia, helped plan the project and the methods by which it was launched, and have constantly and consistently helped Dr. Franklin Martin by putting their shoulders to the wheel whenever they were wanted. No further proof of this is needed than the public lists of those who have served the College as officers, the great majority of whom have been the members of this small Society.

Dr. Edward Martin is a person who dreads praise more than blame. He has shirked the public responsibility of receiving any kind of praise for the altruistic work he did in the period from 1910 to 1917, until the success of the College became assured. Dr. Franklin Martin has done the hard work and done it well, but the part that Edward Martin took should not be allowed to pass without public mention. I bear witness in this book, because I have given much of my energy through all these years to do what I could for the College according to the ideas which were talked over with Edward Martin on the occasion above mentioned. Perhaps other memoirs than mine may prove whether the Philadelphia Martin, as I think, maneuvered the Chicago Martin into his part in the play, or that the reverse was the case. I am sure that the Philadelphia Martin, taking advantage of my dominant idea and my hereditary Puritan characteristics, made me the servant of his own plans. This is acknowledged in the dedication of the first report of my own hospital. Furthermore, if I had not been working on this plan between 1910 and 1912, I could not have produced the paper entitled "The Product of a Hospital," read in May, 1913, nor could I have produced my "Study on Hospital Efficiency," which was presented in May, 1914, at a meeting of the American Gynecological Society, where it was well received and published in their transactions (Vol. 39) of that year. In this study I was able to use the cases which had been at my own hospital from its opening, August 25, 1911, to July 30, 1913, as a practical example of the operation of the End Result Idea. The

correspondence which I conducted during these years has been stored in the Boston Medical Library, in case it may be of interest to some future student of this era. Whatever historians may ultimately conclude, I am personally satisfied that the End Result Idea took an important part in the founding of the College and that this is proved by the first report of our committee in 1913, although the basic suggestions contained in the report have been obscured in the complexity of the record systems later recommended by the College.

During all the time that I was trying to saddle our medical community with the End Result Idea, I do not recall ever hurting any of my colleagues or trying anything more unfair than harmless ridicule. I may have hurt their feelings. If I picked at all on individuals, they were men in high positions such as President Lowell, Dean Bradford, Dr. Washburn and Richard Cabot. I doubt if their feelings were hurt or even their self-esteem. I talked to trustees only through their staffs, the press and my pamphlets. I did not even go behind the backs of the members of the staff of the M. G. H., although a number of the trustees were relatives, personal friends, or members of social clubs to which I belonged. There was one exception — a cousin who was a trustee of another hospital, to whom I used to vent my ideas, but he thought little of them, as cousins usually do of those of their younger cousins, whom they remember as little, freckled-faced boys.

In order to attract the attention of the trustees of the M. G. H., I resigned from the staff in 1914 "as a protest against the seniority system of promotion," which was obviously incompatible with the End Result Idea. On the day on which I received the acceptance of my resignation, I wrote again, asking to be appointed Surgeon-in-Chief on the ground that the results of my treatment of patients at their hospital during the last ten years, had been better than those of other surgeons. I had tabulated my results in case they should ask to see them, but as no one had ever inquired into the results of other surgeons, there was of course nothing with which to compare mine. . Thus, as I had planned, this fact was brought to the notice of the trustees, although at some personal sacrifice on my part. Naturally, my letter was ignored, and I was not appointed Surgeon-in-Chief. However, it was not long before the seniority system was dropped, and a portion of their budget became devoted to a Follow-up System.

It became apparent to me that the medical profession of Boston, its great hospitals and the Harvard Medical School, must be made to pull together with real strength of will, if Boston was to set the example in this movement. Only three great cities in the country were, in my opinion, fitted to take the lead — Boston, Philadelphia and Baltimore — for in each of these cities the majority of the profession were graduates of their respective medical schools and, therefore, there existed in each a certain esprit de corps. Philadelphia, at that time, was a little ahead. It seemed to me that Boston had the best opportunity, for the Harvard influence extended not only through the medical schools and hospitals, but into the banks and into every branch of business, philanthropy or social endeavor. There were two ways open to unite the wills of the various branches of our community, leadership on my part, or a defence-reaction on theirs. Had I the qualities of leadership, I might inspire a band of hard-working lieutenants, and in time succeed in uniting the required number of wills to change any precedent either at Harvard or at its affiliated hospitals. This would be a matter of many years, and I was only a junior surgeon who must also earn his living. I had, on the other hand, observed that the defence reactions of our social forces were fairly prompt and forceful. Harvard is sensitive to ridicule, and also, I sincerely believe, to presentation of facts. If I could awake the steam roller of Harvard public opinion, either by a clear presentation of facts, or by well-advertised ridicule, I felt sure I could get at least a united defence-reaction and some inquiry into existing conditions. I was confident that the End Result Idea would become an intellectual landmark of which any university would be proud, and which, in time, Harvard would claim as a jewel in her crown, and set it with the diamonds of ether anaesthesia and social service.

I was so much influenced by the End Result Idea that I even consulted two friends who were distinguished alienists and put the plain question to them: Am I a victim of a dominant idea because I am willing to make the main object of my life the demonstration of the importance of the simple plan that hospitals should constantly inquire into the results of the treatment of their patients, and modify their organizations when necessary to obtain better results? I received the answer from both alienists that the degree of mental pathology varied with the value of the idea and with the degree of success in making it appreciated. This comforted me somewhat and made the experiment more interesting, for there was some criterion to look forward to as to my own sanity. However, I was a little in the position of the child who prayed, "Now I lay

me down to sleep in my little bed; if I die before I wake, how will I know I am dead?"

I admit now that I should have done better to choose either one or the other path and have become a leader or a satirist. I tried to do both and probably lost some time thereby. I tried to run a hospital of my own with an organization to set an example, and at the same time by publishing aggressive reports from this hospital, to apply a little ridicule to Harvard and its affiliated institutions.

As I was Chairman of our local Medical Society in 1914, I took the opportunity to arrange a meeting with the following announcement:

A Meeting for the Discussion of Hospital EfficiencyAT THE BOSTON MEDICAL LIBRARY,WEDNESDAY, JANUARY 6TH, 1915, AT 8.15 P.M.

UNDER THE AUSPICES OF**THE SURGICAL SECTION OF THE SUFFOLKDISTRICT MEDICAL SOCIETY.**

Up to the present time the public and the medical profession have regarded Hospitals as places for the treatment of the sick, but not necessarily for their *efficient* treatment. Attention has been paid to the cleanliness of institutions, to the architectural arrangement of the buildings, to the kindliness of the staff and nurses, etc., but no attempt has ever been systematically made to determine whether the treatment so freely given has been efficient— that is, as successful as possible.In most hospitals there has been no official or department whose duty it has been to ascertain the results of treatment at all, much less to compare the results attained by different members of the staff in any one institution, or even to make a collective comparison of the results attained by the whole staff, with those of another similar institution.Evidently, Trustees, as a rule, have felt that the best they could do was to appoint respectable men on their staffs and then to leave the degree of efficiency of the treatment given the patients to the individual conscience and ability of the physician or surgeon on duty. The terms of duty have been arranged by the calendar or by seniority.Obviously, if there is any difference in the value of the services of one surgeon or physician and another — which the public seems to admit by its willingness to pay large fees—this difference must be capable of demonstration by some comparative test, so that the distribution of the cases may be made more rationally than by the calendar or by seniority. No physician or surgeon nowadays can be expected to be proficient in all the branches of even a single specialty.Has the time come when hospital organization can be based on the idea of giving the patients successful and effective treatment as well as care and kindness? Is it possible to compare therapeutic results in medicine and surgery, or must we admit that no matter how much we read, study, practice and take pains, when it comes to a show-down of the results of our treatment, no one could tell the difference between what we have accomplished and results of some genial charlatan or some less painstaking and energetic

colleague?Comparisons are odious, but comparison is necessary in science. Until we freely make therapeutic comparisons, we cannot claim that a given hospital is efficient, for efficiency implies that the results have been looked into. Hospital efficiency is mainly therapeutic efficiency.The meeting on January 6th is to stimulate thought on these questions. Has it occurred to you that no person or department in a charitable hospital is responsible for the medical and surgical efficiency ?The speakers will discuss the question of who should be responsible.

The following is the provisional Programme:

Hospital Efficiency from the standpoint of an effiiency expert.
MR. FRANK B. GILBRETH, of Providence, R. I.
Hospital Efficiency from the standpoint of a hospital surgeon.
DR. ROBERT L. DICKINSON, Brooklyn, N. Y., Surgeonto the Brooklyn Hospital (Gynaecology).
Hospital Efficiency from the standpoint of a hospital superintendent.
DR. HERBERT B. HOWARD, superintendent of Peter Bent Brigham Hospital
Hospital Efficiency from the standpoint of a hospital trutsees.
DR. WALTER WESSELHOEFT, trustee of the Mass. Homeopathic HospitaDR. JOEL E. GOLDTHWAIT, trustee of theRobert B. Brigham Hospital.
Hospital Efficiency from the standpoint of a public servant.
His Honor Mayor JAMES M. CURLEY.
General discussion.
E. A. CODMAN, M.D., *Chairman.*
BETH VINCENT, M.D., *Secretary,29s Beacon Street, Boston.*

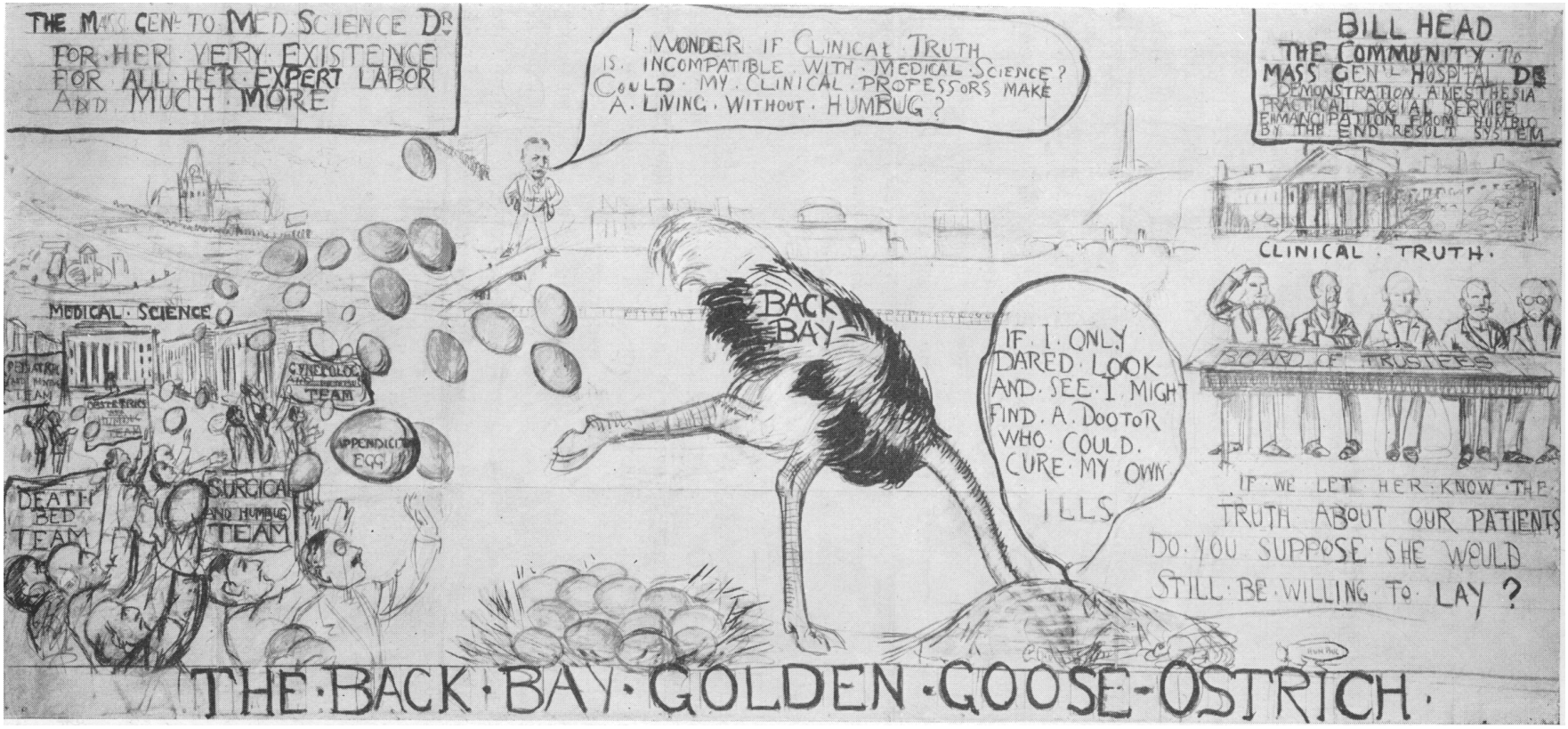
It was not possible for me to get the proper speakers for this program. I should have had the President of the University, the Dean of the Medical School and the Chairmen of the Trustees of the larger Boston Hospitals. Even some of the leaders of the local profession or representative successful practitioners would have helped. Unfortunately, the President of the University had an engagement for a small social dinner far in advance of the date of the meeting, and so on down the line. Nobody in any position of authority in our medical school cared to take the responsibility of answering these simple direct questions. They all knew that the answer was, that nobody was responsible for examining the results of treatment at hospitals, and that the reason was MONEY; in other words, that the staffs are not paid, and therefore cannot be held

accountable. Furthermore, I knew that even the speakers whom I did succeed in obtaining, could not, as guests of our Society, be as frank as perhaps they would like to be, and would not suggest the reason for it, although they might admit the fact that there is no analysis of results in most hospitals.

To make sure that the questions should be answered, I had prepared beforehand, secretly, a cartoon about eight feet long and concealed this under a cover at the back of the stage, ready for use at the end of the discussion, in case no one on the platform or from the audience should dare to suggest the almighty dollar. The large hall in the Medical Library was packed. There was hardly standing room, and the size of the audience was so unusual as to indicate a real desire to hear the questions answered. The presence of the Mayor insured publicity. Moreover, the speakers were interesting and succeeded in sustaining a certain degree of excitement. As my ideas were already known to the majority of the audience, there was an expectant silence, when I rose to close the meeting.

I told of my efforts to get responsible local speakers, how one had a dinner engagement, another was too busy, etc. Then I said that I would present my own answers to the questions in the form of a painting which had kindly been made for me by a friend — the late Philip L. Hale, the artist. No one but Mr. Hale and myself had seen this cartoon, not even the officers of the Society, the secretary of the meeting, or my own wife, who was in the audience. I did not wish any one to share the responsibility for the shock I knew it would give that audience, and I so stated before it was unveiled, with a great flourish, by Mr. Galbraith. The audience held its mouth open while I explained the meaning of the picture, and even after I had finished, continued to be aghast for a minute or two. Then there was as near an uproar as ever I have seen at a Medical Meeting. Some fine old men who had loyally worked for the university, and whose careers I respected, got up and walked out with bowed heads. Other younger ones of the same type rose together to seek the floor, with anger but with nothing practical to say. The great majority, however, were amused more than they were shocked, and a few even risked their reputations by coming publicly forward and shaking hands. For weeks some of my friends did not speak to me, and if I entered a room where other doctors gathered, the party broke up from embarrassment or changed their subject. I was asked to resign as Chairman of the local Medical Society.

For some months I was in disgrace, but the publicity obtained, which spread not only in our local papers but in those of all the other large cities, fulfilled my expectations. My wife and friends had to explain the whole matter daily to other friends, and everybody had to say that what I was after was all right, but my *methods* were abominable. As nobody else was doing anything about what all admitted was true and important, I had no methods to compare with mine, which did not seem to me either dishonorable or cruel to any one in particular. In a newspaper or in the *Lampoon*, the cartoon might hardly have been noticed, but at a "scientific" meeting of a Medical Society, attended by the Mayor (although he left after his own speech and did not see the cartoon), it was sure to create the reaction I desired. Soon after, I was dropped from the position of "Instructor in Surgery," which I then held at Harvard. The chart shows the personal financial depression which followed the cartoon, but this did not last long. I had already resigned from the M. G. H. as explained above, and thereafter had only my own hospital for clinical opportunity.



From "The Shoulder" by Ernest Amory Codman, Thomas Todd Publishers, Boston, 1934

However, I continued my campaign from my hospital, and in 1916 published my third "Study in Hospital Efficiency." This was quite a volume, and since it covered the End Result Reports of five years' work, and also an analysis of all the cases which had died after my operations in fifteen years at the Massachusetts General, it presents ample evidence of the value of efficiency analysis. I sent a copy of this report to every member of the Massachusetts Medical Society and of the American College of Surgeons who would receive one, at a personal expense of about $3,000.00. I still have many copies of this study, one of which I can send to any one who wishes to exchange two dollars for it. I could barely induce people to receive it as a gift at that time, but now I feel that it has a money value. It pleased me greatly that later I had many requests for copies from hospital trustees. In the case of the Woman's Hospital in New York, almost everything that I recommended has been adopted, and I am glad to say improved on, in many details. Several other New York hospitals also accepted the suggestions to some extent. This is evidence that with my sauce of ridicule I served some very solid food for thought. Moreover, in all this campaign I have stood in a glass house while I threw my stones at others, whether they were doctors or trustees. As I did fight from a glass house, I am grateful to them for not destroying me altogether, for, since then, the Harvard Medical School gave me a room for five years from which to conduct the Registry of Bone Sarcoma, and the Massachusetts General Hospital has, since 1929, honored me wit!) the appointment of Consulting Surgeon, which enables me to operate on private patients whom I have referred to its various departments. Still more remarkable than this, the cartoon lias been mounted on cloth, arranged like a folding map, bound and placed for safe keeping in the Boston Medical Library. I publish this cartoon now, because, having been condemned by a previous generation on its account, I hope that I may be judged by a future one to whom the subject will appear less serious. -It depicts President Lowell standing on the Cambridge Bridge, wondering whether it would be possible for the professors of the Medical School to support themselves on their salaries, if they had no opportunity to practice among the rich people of the Back Bay (the residential portion of Boston). The Back Bay is represented as an ostrich with her head in a pile of sand, devouring humbugs and kicking out her golden eggs blindly to the professors, who show more interest in the golden eggs than they do in Medical Science. On the right is the Massachusetts General Hospital with its board of trustees deliberating as to whether, if they really used the End Result System, and let the Back Bay know how many mistakes

were made on the hospital patients, she would still be willing to give her golden eggs to support the hospital, and would still employ the members of their staff and thus save the expense of salaries. Across the river and over the hill are seen armies of medical students coming to Harvard because they have heard that the End Result System will be installed in her affiliated hospitals.

A few of my contemporaries have credited me with "moral courage," but I deserve no such credit, for I have merely reacted to stimuli. I may relate, as a parallel, an incident which occurred in 1897 in a part of the country called the Big Horn Basin, then a wild and desolate region. I was traveling with a "pack outfit" when, one day, we met a lone rider with a huge, ugly-looking dog, more like' a mastiff than one of any other breed. The rider was a typical "bad man" who "toted" two guns and was quite as unprepossessing as one of the western villains of the modern movie. He rode along with us for a time and presently we came across a small herd of cattle, loose on the range. The dog made for them and rushing into the herd, "cut out" a cow and a calf, and proceeded to grab the calf by the ear. The bellowing cow made repeated dashes at the dog, but at every rush the dog would swing the calf around so adroitly that the mother butted the calf instead of its enemy. What with the bellowing of the agonized mother, the squealing of the frightened calf and the growling of the dog, it was a noisy and most unpleasant scene. As the owner of the dog did nothing, I dashed up, dismounted, mixed up in the rumpus and kicked the dog with all my might. He crumpled up with a gasp and lay still, so that I thought he was dead until presently he pulled himself up and whimpered off with his tail between his legs. I got away with it, but I was probably in the presence of the greatest danger of my life, not only from the two-gun man and the dog, but especially from the cow. The act was from impulse and was not a product of thought or intention. I simpty could not stand the sight. It was folly, not courage, and the other youth in my party had more sense than I. Our old guide later informed me that the dog was very valuable to its owner, who was a " rustler " and had trained the animal to "cut out" calves and hold them to be branded; but the point I wish to make clear is that my real danger was from the cow, whose cause was also mine.

Whatever credit I may deserve for my tirades should not be for moral courage, but it seems to me that I deserve some credit for restraining myself as well as I have done, having once started on the

campaign. To see our hospitals turn their faces away from evident facts is as repulsive to me as to see a calf bullied by a dog, while I stand by and do nothing. What straight-thinking surgeon will deny that on any day at any public hospital one may see suffering, greater than that calf's, caused by incompetence or by neglect of well-known principles of diagnosis or treatment, on the parts of either the physicians who treated the patient before his entrance into the hospital, or those in charge at the hospital. It is not these physicians I attack, but the lack of logical organization in our profession where, as students, we get instruction by example. I am sure I have suffered in greater degree by refraining from saying more about our medical and surgical customs than I have from the professional and social slights received in consequence of saying as much as I have said. If the western scene had been in the center of our Harvard Stadium, and the owner of the dog had been a favorite of the university, imagine what a brute I should have been called! The university, like the poor cow, regarded me as an enemy for trying to remove humbug from its grip on her offspring's ear. However, social position protected me in both instances. On the plains my companions carried guns and our old guide had his rifle across his lap. When I attacked our system of medical education, argument was impossible, for every man in the audience knew that I was right. I had held it naked in the glare of publicity, and the only thing that could be done was to ignore the episode, and to proceed to dress it up a little in case of another flash of lightning. There is now an improvement in the salaries of our professors, who are able to confine themselves more strictly to their teaching and their records, but a thoroughgoing comparative analysis of the results at their affiliated hospitals is not, as yet, a conspicuous feature in their prospectus. They are still obliged by the sentiment of our community to give more publicity to the art than to the science of medicine, while they continue to perform their individual experiments.

When the War broke out I was contentedly carrying out my numerous plans. My friends in the Society of Clinical Surgery, although perhaps also shocked at my methods, were loyal. Even my former comrades at the M. G. H. showed some forbearance and were doing what they could to help. The fellow members of the Committee on Hospital Standardization had signed my reports, although at their own hospitals they were unable to fully exemplify the high ideals which we were recommending to others. By 1917 the American College of Surgeons had taken over the Hospital Standardization work, and it has since flourished

under the able leadership of Dr. Mac-Eachern. I was enlarging my little hospital as fast as I could make, or borrow money. The M. G. H. was maintaining its End Result cards; the follow-up system and the special assignment policy were flourishing. Other hospitals were following suit. My operations at hospitals other than my own were supporting me and slowly helping me to expand mine. I heard more and more signs of appreciation of what I was trying to do. I often think that had it not been for the War, my plans would have reached a real fruition, but when War came, the thoughts of men, my own included, left their jobs. My appeals for improvement fell on deaf ears. Most of us worked in the line of our habits, with minds on the War and intellectual processes wandering even from hobbies. No one was interested in avoidable improvements in hospitals or in ideals. Even with my head full of the latter, and although intellectually I could take Germany's point of view, I, too, wanted to volunteer and be with other friends who were joining British units. However, my hospital was holding me fast, and so did my conscience, for I felt I could do more for my country by making a demonstration of the End Result Idea than by doing what other surgeons could do as well in the Army. Conscience is a queer thing in war time. It appears in the hard-boiled and in the ne'er-do-well who have never manifested it before; it makes moral heroes out of some physical cowards and turns some honest men into daring spies or into chivalric aerial murderers. As in peace, we use it to excuse our doings. I regard my own as a troublesome inheritance from my Puritan ancestors which must to some extent be appeased like any other appetite. It is as much a part of me as my foot, although under excitement botli may be forgotten for a time.

Then came the great disaster at Halifax. I telegraphed my good friend, Dr. Thomas Walker of St. John, New Brunswick, offering the help of my hospital staff and a few hours later we were on our way. Dr. H. V. Andrews of Boston fortunately came with us, for he soon demonstrated how a surgeon, who has earned his living in general practice during his early years, can be of more help in such an emergency than any single specialist, for our patients, although for the most part needing surgical care, also presented problems in the whole range of specialties, from obstetrics onwards. We took part in the organization of an emergency hospital, which, when we left two weeks later, was running smoothly with an End Result Card for every patient. Although these cards may now be as scattered as the leaves of the Cumfean sibyl, at the time, they served to keep my finger on every pulse in the hospital and to illustrate the

simplicity of installing the plan, even in a city paralyzed by a calamity. One physician told me that in half an hour lie had used all his stock of drugs, and found himself of more use as a man in helping steadily for two days to rescue those still alive who were buried or crushed in wrecks of houses than in his role as a physician.

Having left, with regret, the work in Halifax, where, as Major in the Medical Corps of the Canadian Army, I could have been of real service, and having returned to my hospital purely to try to save money, an indescribable restlessness came over me, until in September, I found myself in our own Medical Corps, wrestling, as Senior Surgeon of the Coast Defences of the Delaware, with the impossible "paper work" of our Army, in the midst of the influenza. Presently, what with patients and enlisted men assigned as orderlies to' care for them, I had more soldiers under me than had the general in command of the three old forts. At the end of mjr endurance, I stood one night in the upper ward of the old hospital in which had been concentrated those whom I judged to be hopeless. My other medical officers were sick abed— even my tireless and capable junior, Captain Ellis, was on that night exhausted. The floor was slippery with bloody sputum; there were no nurses; no petticoats of any kind; no bedpans; no gauze and few medicines; in fact, there was no medical or nursing care. Those that were able lurched to a toilet with the aid of some other soldier who had yesterday been a recruit and now found himself an orderly in this death house, mopping up bloody slime from the floor or cleaning the bed of another boy after he had helped to dump the body and the soiled blankets in a box. I turned and said good-night to those boys who were facing their dangerous duty as bravely as those who fought in the trenches. After a few hours I was able to get up and go on with the "paper work," reporting the numbers of sick and dead, filling out the death certificates, making applications for transfer of insane recruits and otherwise obeying the orders of my competent subordinate, a Sergeant of the Medical Corps. There was no time to test the simplicity of my system of records, but there was necessity for me to learn the use and deficiencies of the Army System.

In November, as Regimental Surgeon in the Artillery, I had a card for every one of 1,800 men, and enjoyed the new duty of studying how to keep men well, and of getting rid of them when sick. Even the old army sergeant was surprised when I would send for a certain list of men to see whether they still had scabies, or some other minor ailment, and no orders

had come for an inspection. He gave me to understand that it was customary to wait until a disease had spread sufficiently to attract some attention from a mysterious medical headquarters, which then issued orders to inspect and report. There was much that was interesting to me about this experience, but as it does not bear on my subject I will merely add that, at this camp in Virginia, after the Armistice, I received an honorary appointment as Fish and Game Officer for the General in Command, and my Christmas leave was spent in camp with daily expeditions after pike and bass, duck, quail, and wild turkey, with my agreeable superior.

In January, 1919, not having applied for discharge, because the need for medical officers seemed greater than before, I was transferred to be Surgeon-in-Chief to the Base Hospital at Camp Taylor, and again had a chance to test the working of my record system. Five hundred hospital beds and some S00 convalescent soldiers in barracks gave an excellent opportunity. An orderly carrying my box of cards attended all visits or operations. The cards were not substituted for the regular records, but served to keep in touch with them when desirable. The senior surgeon of a hospital of 500 beds, if he worked eight hours a day, could give less than one minute to each patient, even if he did no operating or executive work (60 minutes X 8 hours = 480 patients), yet, with the aid of my catalogue and of a good orderly, who has since become Dr. Fraasch, I kept a certain amount of supervision over every patient, operated on many, dressed difficult wounds, and made personal notes on the condition of nearly every soldier at entrance, and again at discharge. At least once a week I inspected each serious wound and often had consultations in the Medical Wards as well. My cards were of the greatest help, for I could talk over his cases with each ward officer as often as seemed desirable. However, I must admit that my day was often longer than eight hours.

In June, 1919, I returned to my closed hospital, in debt, with no borrowing capacity, and somewhat disillusioned as to the possibility of altering the ways of human nature by my intellectual efforts. I had patched up too many fine young men to feel much enthusiasm about keeping the aged and infirm alive, or to listen with any pretense of sympathy to even the nicest lady's description of the daily behavior of her digestion. I determined to be a money-maker, at least until I had paid off my debts, and for two years charged most of my patients three times as much as formerly. My hospital reverted to an apartment house, and for

nearly a year I steadfastly abstained from embarking on any new adventures for the benefit of coming generations. Nevertheless, I subtly drifted into the organization of the Registry of Bone Sarcoma, because one of my best patients had a bone tumor. My dream was that this one disease could be used as an example of the inadequacy of our present methods, and that some day the records would serve to demonstrate the value of the End Result System in hospital organization. So far as establishing an undeniable record of our present inefficiency goes, I have succeeded, but even now there is little organized effort to prevent these unfortunate patients from being treated for "rheumatism," until it is too late to save them. I have probably spent more time over this Registry, during the last thirteen years, than the average medical student requires to get his degree, yet, in all this time, I have had the actual care of not more than a half dozen patients with this disease, perhaps less than if I had not written at all on the subject. Many consultations, of course, but the patients are not turned over to me, although one may live next door. What is the reason ?

The hardest thing in my Quixotic career to explain to my colleagues is my plan of free consultation in cases of bone sarcoma. Why spend years studying a subject and then refuse consultation fees? In the first place my object was not to make money, but to illustrate a principle. In 1920 we had, in this country, four eminent authorities on this subj ect, Bloodgood, Coley, Ewing and Mallory, who, by years of study, had amply earned more than they would ever be paid. I doubt if any of them have received three dollars an hour for the time they have spent studying, reading and writing about, lecturing and operating upon, or caring for patients with diseases of the bones. I did not wish them to consider me a competitor, but as a helper, and furthermore I needed their authoritative opinions to establish the Registry. These men became authorities because they had been earnest students and teachers. I believe all of them regard the large fees that may occasionally be paid them by the well-to-do, as merely necessary incidents in their work — a vicarious payment at hourly rates for labor and expense. I have received their cooperation, especially that of Dr. Ewing, who has, even more constantly than the others, been willing to undergo that extreme test of authoritative opinion, a written diagnosis before treatment is undertaken and the eventual result known. This is a real test, not only of knowledge, but of integrity, for necessarily these authorities have voluntarily signed their names to mistakes in diagnosis which may cost life or limb, and, in future, be regarded as

evidence of ignorance and even of stupidity, after the results are known and better diagnostic methods have become established. Enough years have already passed for most of us to feel humble.

The second reason was to illustrate how little recompense comes to the true student of difficult medical and surgical fields, except the honors accorded them, if they point a way which others may follow with profit. The public pays the prominent surgeon who amputates the leg, not the scholar who first describes the disease, the practitioner who makes the early diagnosis, nor the pathologist who takes the real responsibility at the exploratory operation and gives the final decision to amputate. The surgeon can do a satisfactory amputation before he graduates as interne, and from that time until the day when his hand is tremulous, bifocals are necessary and his own interne keeps him in hand. One surgeon can amputate practically as well as another, but in 1920 there were not a dozen surgeons in America who had an adequate knowledge of the different varieties of bone tumor, to tell, with reasonable certainty, whether, in a given case, amputation was indicated. Even now, when what knowledge we have has been put in an available form, there are not many who have studied it, and yet any surgeon will consider himself justified in making this decision for a patient, perhaps in consultation with some more prominent surgeon who has little real knowledge but much authority.

I wished to make my knowledge of Bone Sarcoma so conspicuous that my opinion would be acknowledged to be of real value, and by making no charge for consultation, clear myself forever from the imputation that I was advertising for that purpose. On the other hand, if a patient, rich or poor, were referred to me to be treated, I would accept the responsibility and operate or not, as I thought wise, making a moderate charge for the conduct of the case, just as I would in one of appendicitis or of some other condition requiring routine surgical technique and less expert knowledge. Furthermore, I was still somewhat in disgrace at that time, and had no charitable hospital appointment and therefore could care for no really poor patients. I wanted to make this obvious, for the paradox showed that the trustees of hospitals do not appoint their surgeons because of their knowledge. In other words, my attitude would constantly bring up to those surgeons, who happened to have a case of bone sarcoma, the questions: "Have I a right to operate on this case merely to get the fee for amputation when there is another

available surgeon who can not only amputate as well, but has also spent years in the study of similar difficult cases and whose advice I may ask with no cost to the patient? Would not this patient prefer the care of the other surgeon if he knew the facts ? Are we doing what is fair by our patients if we let them think that skill in operating or general reputation are more important than knowledge about their diseases?" This was not a policy likely to increase my popularity. I did not wish to become known as a surgeon who had special skill, but I did wish to induce the above train of thought in the minds of my colleagues in order that they might talk about these questions at their clubs.

Bone sarcoma was a particularly good illustration, not only because I had no claim to special success in treatment, but because it is a rare and usually fatal disease in which accurate diagnosis and wise advice as to choice of treatment are far more important than the slight superiority in operative dexterity which any one surgeon may possess above the average. In 1920, blunders in the diagnosis or in the choice of treatment were very common in these cases, but could always be pardoned because the most eminent surgeons made similar ones. I had no claim to preeminence as an operator, but the amount of time I had devoted to the study of the pathology and to tracing the results of treatment, would, if the patients themselves could have known its extent relative to that of the surgeons into whose hands they came, have given them some misgiving. My chief interest in all this work was to show, in epitome, an example of the End Result Idea. Could any hospital, which really aimed to do its best for its cases, permit patients with a rare disease to be cared for by members of its staff, no matter how dexterous, who were not conversant with all attainable knowledge about that disease? What incentive would there be to thoughtful young men to spend years in the study of obscure conditions, if patients with these conditions were to! be assigned, by the ward or by the calendar, to other less studious surgeons who were too busy making money even to read the literature of the subjects?

Of course these ideas of mine are unpopular with the majority of our profession who have spent their lives in the practice of the art of medicine rather than in that of the science, and, being financially successful, are able to influence the trustees of hospitals against an analysis of results. For years they have deceived themselves into thinking that they were giving their services to the hospitals, and comparison of

achievements would be, to them, as odious as a comparison of incomes. They know our results are not as brilliant as the public thinks. They cannot understand my attitude of beseeching them, the country over, to make a "show-down" in at least the few cases who have bone tumors. They vaguely, and I think correctly, fear that if we succeeded in collecting complete records of every case of bone sarcoma, the evidence would lead to radical changes in our hospital methods. At present there is only a minority which desires such reforms. All honor to the men who have registered the 1,500 cases so far received; they have truly contributed to science.

And now this book is presented to you as a final illustration of my life work, rather than as a monograph on the shoulder. It offers you an instance of how an *apparently* trivial injury may fall through the mesh of the loose net of our present system, and how the cost of this leakage is paid by the community in the end. The epilogue will use the same "trivial" lesion to illustrate the need of some form of advertising, in order that patients with rare or little known diseases may promptly reach those doctors who are best qualified to care for them. I propose to show that, twenty-three years ago this lesion had already been accurately described, its symptom-complex clearly recorded and appropriate treatment pointed out, yet, in the hospitals of the world today it will be found that it is often unknown, seldom recognized and rarely successfully treated. This is a state of affairs which could not exist under the End Result System, for no "uninteresting" condition which causes prolonged pain and disability, could be thus neglected. Furthermore, I hope to convince you that the cost to the community of only 100 neglected injuries of this kind would have paid for my own schooling and medical education, added to all the money I have ever inherited or received as professional fees. Hence the little study in the cost of medical care which is shown on my chart.

I have given you an account of efforts rather than of achievements, for much has been attempted that has not been accomplished; even the standardization of hospitals on the basis of End Result analysis and the Registry of Bone Sarcoma are not yet successes. Although my effort on every interest has been largely futile, I have at least worked hard while my wagon was hitched to each star. It is difficult to measure the degree of success one attains in anything, but there may be a law of the Conservation of Human Work, just as there is one of the Conservation of Energy, viz., that if a man labors earnestly for some object, while he may

not attain that object, his work will count in some way. The by-products may be more important than the product for which an industry was established. I like to think, for instance, that my End Result Idea had a part in the origin of the American College of Surgeons, and is the basic principle of any rational hospital standardization; that the Registry has helped to diffuse the knowledge of bone sarcoma which Ewing possessed, and that it has also afforded opportunity to the brilliant mind of Kolodny; that the introduction of the policy of Special Assignments has made the Massachusetts General an example to other hospitals, has led to many contributions in difficult fields of surgery, and furnished our community with some true specialists.

And now perhaps this book, in which I advocate a plan that all hospitals make, for a time, a combined study of the shoulder, may lead to some unexpected transformation of my labor. If work is accurate and earnest, I do not believe the amount need be large. Momentum is the product of mass and velocity, and there should be a parallel law that the momentum of one's labor should equal the degree of intellectual accuracy multiplied by the quantity of energy given to it. Rontgen wrote his masterpiece in a few months and the small quantity of work was multiplied by a superlative accuracy, yet his contribution would have been impossible without the momentum of the labor of Crookes and Lenard, who produced the X-rays without observing that they had done so. Only the apex of the projectile was defined by Rontgen, but the momentum of all the work on electricity since that of Galvin and Faraday, sent it in a flash around the world. I would like to make this book so accurate and truthful in every way, that it will greatly multiply the labor it has cost. Its intellectual momentum should be of use somewhere, even if not in the way I plan. It may add to that of a book by Veresaeff, "The Confessions of a Physician," published in 1904 by Frederick A. Stokes Co., New York, and Grant Richards, London.

Have you the impression that you have been listening to a hardworking student who has spent his days and nights, months and years, in the belief that he was anointed to reform his brethren? If so, it is false, for I am no reformer on any principle, but merely because I am naturally disgusted with humbug, self-deception, hypocrisy, smugness, cupidity, and injustice, just as many another may be, who has not been in a position to indulge his prejudices. I believe Don Quixote had a good time, and I have had mine, too. What if we have occasionally attacked windmills? There was the joy of battle. I really have no moral principle

beyond trying "to do as I would be done by," "honesty is the best policy," and a few other human maxims.

Although seeing no clear reasons for belief in, or worship of, a deity, and having no expectation of an after-life, I find little intellectual difficulty in explaining to myself a desire to take what is usually called a moral point of view. I am satisfied with recognition of the fact that a happy and satisfactory life is impossible, unless one has the sense of being of service to others. The normal individual cannot evade this conclusion, for heredity from countless generations has given him a tribal instinct to appease.

It is so instinctive to wish to be popular with, rather than despised by one's own generation, that great philosophic effort must be made to satisfy this tribal urge in substituting appreciation after death for present wealth or honor. But if the prophet is confident of the value of his service, he may keep his equanimity in spite of the jeers of his contemporaries. Although the End Result Idea may not achieve its entire fulfillment for several generations, I hope to be as content when dying as any soldier on the battlefield, who, although he may have fought for quite the wrong side, feels the glow of patriotism, or as many an old financial baron, breathing his last in his four-poster, convinced that he has left his children protected from a wicked world. Honors, except those I have thrust on myself, are conspicuously absent on my chart, but I am able to enjoy the hypothesis that I may receive some from a more receptive generation.

Agnosticism has advantages over most creeds. It accepts without thanks, from generation upon generation of ancestors who have painfully perfected it, the wonderful psycho-physical machine we call mind and body. They did not voluntarily perfect this machine on our account, although they may have prayed for our souls as well as their own, during a small time-fraction of their racial existence. We need not thank them, but now that we have come to realize that we shall bequeath similar machines to our progeny, we might do something more and leave them instruction books describing the detail of parts, oiling methods and general care. To my mind, morality is almost synonymous with the degree of wisdom we use in caring for and enjoying the use of these delicate but resistant mechanisms and of the ambitions and desires which came with them. Complete enjoyment of our seventy years of allotted use implies the

exercise of all the virtues. We must be moderate and proportionate in driving it, although it has been built with self-regenerating mechanisms to stand the vilest abuse. Its desire for a place in the community is as real as its mechanical wants. For full enjoyment all such needs must be acknowledged. If we become disgusted with the folly of our own generation, we can always employ our machine to do something which we think will make life more enjoyable for a future one. My contribution will be instructions as to how to avoid delay on the road when a certain tendon is broken. But appreciation for such work must be postulated, and this is not easy, although to my mind preferable to the embarrassment of accepting the keys of a great city.

Perhaps most creeds have erred in pointing to the past instead of to the future. Men have sanctified and deified their ancestors, and have even sacrificed themselves and each other to them, but no religion of which I know has pointed to the heaven which might exist on earth, if, neglecting our own souls, we sacrificed for the normal lives of the generations yet to come. Many individuals have done this, but it has never been a creed. Why not deify the supermen we may take part in making? There would be more logic in being burned at the stake as a part of a carefully-conducted series of experiments which would eventually render humanity fireproof, than merely to save our own souls. Even if without going so far as to be martyrs, we all gave up accumulating property, and constantly worked for all the children we shall never see, our own heirs would stand nearly as good a chance as they do at present, so far as I may judge from my own chart. Yet I am not a believer in socialism but in aristocracy. The best are none too good to govern us, and even our wise men, individually, are often gullible in medical or spiritual matters. The world will still be pagan while wealth and energy are devoted to the saving of past and present souls, instead of to the benefit of the race, which is the after-life.

At school I gave more thought to collecting birds' eggs, trapping rabbits, muskrat, mink and skunks, than I did to religious instruction ; and since I have practiced surgery, my attention has been riveted on so managing my life that I could get "days off," during the spring for trout fishing and a month in the fall for partridge and woodcock, that I have given little thought to morals and have substituted reasonable habits. If you are to know me, I may as well admit that I have averaged at least thirty days a year in hunting and fishing. I have tried these things in

thirty-six States of the Union, in England, Scotland and Ireland; in Ontario, New Brunswick, Nova Scotia, Quebec, Cape Breton; in Egypt and in Yucatan; and in the case of at least two New England states, in nearly every township. Yet, I have never hit ten ruffed grouse in succession. A few years ago I got six in sequence on different days, and am still hopeful, but as in my professional work, the thing I try to do consummates in something else. In this case, in many friendships. My playmates have varied in character from a godly minister, a great philanthropist, a noble general practitioner, to an outlaw who was a confessed murderer, and several town ne'er-do-wells who were "born in rubber boots." Yet most of them have been men I trusted even in their fish stories.

Perhaps I have sacrificed my success as a distinguished surgeon to these pursuits. I have loved them better than teaching dozing medical students, the pride of amphitheatre dexterity, or the hushed dignity of the consultant at the bedsides of important persons. On many a bright October day I have been glad that my talents as a teacher were not in demand. In the spring when I dig up the first worm in my garden, I say with Hambone: "That old red worm he looks up in my face and say, 'Whar yo' fishing pole?'" Then I get my reward for not being an overworked "Chief of the Surgical Service." In summer as I drift about on some out-of-way pond in my portable boat, watching the cotton wool in the clouds, and momentarily expecting a strike from "a big one," I am grateful that I am not in demand at the bankers' bedsides.

But speaking about that portable boat which has accompanied me to many states and has shared some very happy days, you must hear of the day it was first unpacked. The directions which accompanied it were very detailed and specific; just how to lay the floorboard, the ribs, seats, etc. The last one was something like this: "And now get in, and row out into the pond in the nicest little boat you ever sat in." So I say to the reader: "Now start in and read the best book there is on the human shoulder (it is the only one) and do not fail to note that it shows that only ten neglected cases of the injury, prominently mentioned in its title, may cost our community more than would the distribution of 3,000 copies of this book at $10.00 a copy, preface, epilogue, cartoons and all!

Epilogue

from "The Shoulder" by Ernest Amory Codman, Thomas Todd Publishers, Boston, 1934

AN EPILOGUE
THE ETHICS OF ADVERTISING BY THE MEDICAL PROFESSION

Advertise.(1) To give notice, advice, or intelligence to; to inform or apprise; — followed by of before the object of information, as, to advertise a man of his loss.(2) To give public notice of, or to describe with a view to sale or recovery and the like; as, to advertise goods; to advertise a runaway.Synonyms: To apprise; inform; make known; announce; proclaim; promulgate; publish.
Webster's Dictionary.

THIS EPILOGUE is addressed particularly to those members of the American College of Surgeons who originally subscribed for this book. It is, therefore, like the preface, somewhat intimate, although quite as scientific as the meat layer of this literary sandwich, for it is also an effort to trace truth as it dodges about among appearances or hides in plain sight behind respectable customs.

Our profession is being more or less justly criticized in our own journals and in the lay press because we have provided no satisfactory method whereby the layman may be promptly and economically attended by the particular specialist best qualified to treat each of his ills. One who practices any specialty will readily admit the truth of this charge against our methods, for he daily sees patients who have suffered greatly, both physically and financially, because they did not have appropriate treatment as soon as the diagnosis could have been made, perhaps months or even years before. The lesion which is the subject of this book offers a striking example. Every specialist feels as I do, that his cases should have been recognized sooner, and yet every one of us will admit that while he is treating his special organ, he may be overlooking some other ailment of greater importance in some other organ. Knowing this, he insists on a general examination by the patient's own doctor or he calls in a diagnostician to make one. Few true specialists will receive, for more than a short time, the responsibility of the whole patient. They insist that the general practitioner should be his major adviser and friend. As a matter of fact, this is not as altruistic as it sounds, for many of us would

have to admit that we do not even know how to make a good modern general examination. And what would we do in case some dangerous or disagreeable condition appeared, such as a contagious disease, delirium tremens, insanity, an incurable condition or the complication of financial irresponsibility? The specialist for these things is apt to be the family doctor. Constantly under fire from the specialists for not having a consultation sooner, the practitioner is, at the same time, censured by the patients for his tendency to call in a specialist. The specialist charges more than he does, but the prac-titioner backs him in so doing for the following reasons among others. He knows that the specialist, to achieve his position, has had to spend most of his time and energy in unpaid hospital work and perhaps in expensive travel to observe the work at other clinics, and very likely, also, he may have written a book! The doctor also wants the specialist to charge significantly more than he does, so that his own patients will not all run away from him. Not infrequently he knows what the patient ought to have done, and that the specialist's glamour can make the patient have it done, although he cannot, himself, make the patient submit to it. This problem has become an economic one, and the modern "pay-clinic" is one very reasonable attempt at its solution. The question which I want to discuss is whether any amount or any manner of advertising could help to better our present methods. Far be it from me to suggest more advertising, for my waste basket daily receives material, which, if converted into cash at cost price, would easily support one person.

First let us consider what ways we have at present by which to apprise, inform or otherwise advertise a patient with a rare disease so that he may receive appropriate treatment, and vice versa, how may a doctor, who has given intensive study to some one condition, obtain the patients who need his help?

Our present *Tel-U-Where System* is made up of units scattered over our country and designated by Dr. or M.D. on conventional doorplates. Possibly his special field is also indicated on the doctor's sign, but this is not in general considered to be in good taste. We urge every person to attach himself or herself to one of these units as a permanent patient, so long as mutual trust is maintained. Every one should have a yearly physical examination by his physician, and if found to be sound, be instructed as to how to keep sound, and warned of the consequences of any bad habits or physical weaknesses which his physician may discover.

Should the physician, at any time, find a minor condition requiring treatment which he can give effectively, he may treat the patient and charge a fee, limited in a general way by the local fee table of the County or State Medical Society. If a specialist's service be required, the physician should either refer the patient directly to a specialist competent to treat the condition, or call the consultant to make or confirm the diagnosis, and to instruct him, the physician, as to how to give the appropriate treatment. The consultant's fee is not so much limited by the local fee table as by general custom, and especially by the statement of the physician to the consulting specialist of the patient's circumstances, while to the patient is explained the reputed standing of the consultant among his confreres and in the public eye.

Thus, we, the profession, appoint the physician an arbiter between patient and consultant, for he should have, on the one hand, an intimate knowledge of his patient's financial condition, and of the consultant's standing and attainments on the other. Consultants are expected never to attempt collection of fees of which the practitioner has expressed his disapproval. Since a consultant often responds to the call of a practitioner for a patient who can pay little or nothing, the practitioner usually urges his well-to-do patients to pay a handsome fee to the same consultant. Some consultants habitually refuse to accept any fee until the practitioner has been paid his moderate charge.

The patient, having once chosen his practitioner, is supposed to remain the patient of that practitioner and to consult no other physicians or specialists without his consent, as indicated in a letter to the new doctor. This point of "etiquette" has grown up to safeguard the patient, for there may be facts about him such as previous diseases, nervous or mental history, or social complications—financial responsibility, etc.—which the new physician should know. Moreover, it is merely ordinary courtesy for the patient to be frank with the doctor he trusts, although it is human nature to try to avoid hurting his friend's feelings by showing a lack of confidence in his professional knowledge. The patient may, at any time, leave one physician and go to another, but he should notify the first physician before so doing. The second physician necessarily receives him in a different spirit, with less feeling of responsibility for the trust imposed, if he does not do this.

Now this system has grown up more by custom than by the plans

of the leaders of the profession. The fact that it exists is because our ethics in general are simply the dictates of the Golden Rule. The system is a good one, if not an entirely practicable one. It works, in fact, almost in proportion to the tendency of mankind, laymen and physicians, to abide by the Golden Rule in their daily lives. It probably works more nearly perfectly than other forms of etiquette or ethics in other classes of people for two main reasons. First, because the physician usually chooses his calling from high-minded motives and secondly, because a patient's moral resolutions are usually highest when he is sick. The devotion of doctors and nurses to a sick man or woman is seldom unappreciated at the time it is given, though it may soon be forgotten, especially if the bill has not been paid. "When the Devil was sick, the Devil a Monk would be."

However, the burden of these customs lies on the conscience of the general practitioner. In addition to the obligation to know and recognize the early symptoms of hundreds of different diseases and injuries, which may need a specialist's attention, he is expected to know the reputations of the individual specialists themselves, whose more or less superficially concealed advertisements he has little time to read in our journals. It is perhaps even more difficult for him to choose a specialist than it is for the layman to choose his doctor. In both choices, reputation for honesty and for training are of more importance than for personal attainments. The practitioner, in making his choice, has much help from knowledge of the hospital positions held by the consultants, as well as from the general standing of the hospitals themselves in the community at large. Hence, all of us wish to stand well on the staff of a renowned hospital. Just as a layman in choosing a doctor may pick his medical school, and then select the nearest graduate of that school, so a doctor may pick his hospital before choosing his consultant.

Theoretically this system is a good one, and thinking men among physicians, statesmen, educators and philanthropists are constantly and patiently endeavoring to strengthen it rather than to plan a new one. Naturally the unit of the system where the sign M.D. hangs, is the chief point to strengthen. This may be done in several ways. The efforts of many of the best minds in the profession are given to teaching medical students the impossible task of caring for these unit stations. They still (I think futilely) hope that men can hold such superhuman jobs. Some of us have aimed to raise the standards of the hospitals, so that incapable or dishonest consultants will not be given places on their staffs, hoping that

in time the public will not be satisfied with consultants who do not have, and take, full advantage of hospital opportunity. A much smaller, but still an active group of minds, aim by legislation to raise the standards of education required for a license to become a unit of the system.

The great majority of those of us who are consultants or specialists, occupy ourselves with post-graduate education in the form of advertisements addressed to the existing units, in order to keep them informed of the advances in our specialties and of our own hospital positions and professional standing. These, sometimes altruistic, advertisements are delivered in person at great national meetings or at small local clubs; in print in countless medical journals and as reprints of such articles. Occasionally our time hangs so heavily that we write a book. In all this flood of literature directed to these units of our system, there is but a small modicum which the recipient doctor can assimilate. Too much of it is to tell him how much we know. Moreover, much of this material, especially when it is as exact as we can make it, proves to be very ineffective as an advertisement of ourselves. Judging by my own experience my papers represent time and energy wasted, so far as bringing patients to my door is concerned, because most of my papers have been on unsolved problems. However, these meetings and articles do help us to educate ourselves and to stimulate our colleagues, even if only a hazy amount reaches the units of our advertising system. Quantity probably counts with them as much as quality, for few busy practitioners can have time for much more than a glance at the titles of our papers.

Of late, there is a tendency to advertise our clinics as a whole, rather than our individual attainments. This is probably an improvement in effectiveness and perhaps in ethics. In our community the Medical School of Harvard University gives a series of Sunday afternoon public lectures at which the university presents its good and faithful medical servants directly to the public and to the newspapers. I certainly approve of this. The Massachusetts General Hospital has repeatedly told the public of the advantages of the Baker Memorial, even mentioning the prices of the professional service. I approve, although this seems to be a challenge to the individual local surgeon to put under his sign "Clearance Sale; prices less than those of the Baker Memorial." He certainly cannot hope to compete with either of these organizations in newspaper publicity. Nevertheless, notwithstanding the prestige of these renowned institutions, the majority of patients still go to the ordinary Tel-U-Where

System described above.

Both the public and the profession are so in the habit of reliance on the conscience and common sense of the family doctor, that the advertising of great institutions, or even the purely advisory one of Dr. Evans, cannot change the custom. I, for one, believe that the conscience of the medical profession as a whole is a little better than that of the average man, but we are human and must earn our livings. In matters of life and death our system works tolerably well, because procrastination is apt to recoil on the practitioner; but when it comes to the case of a patient with some small matter like a sore shoulder, each unit feels that he owes it to his family to try his hand at treatment, for he knows that most sore shoulders get well after a time of their own accord, and he needs the patient's money. Moreover, such patients do not take readily to the advice to see a specialist; it costs too much.

To illustrate what I believe happens with our Tel-U-Where System in cases of rupture of the **supraspinatus**, let us imagine the progress of a patient with this lesion who seeks relief. If the patient came to a doctor who was equipped with an electric baker, the baker would be used. If the doctor had an Alpine lamp, that would be used, and so on, whether the equipment was an infra-red or an ultra-violet lamp, a diathermy set or other form of electric apparatus. If the doctor were an osteopath, cheiropractor or employed as a masseur, some form of manipulative treatment would be given, or, if he had cultivated a reputation for intravenous therapy, colon irrigations, organotherapy, hydrotherapy, heliotherapy, and so on, these methods would be used. If the doctor had faith in drugs, an alarming list of soporifics would be at his command to palliate the pain. Any or all of these methods might help the patient to bear his suffering, but none of them would be at all curative. If the patient went directly to a busy surgeon he would probably be referred to some orthopedist, or to one of the above "specialists," who usually sent his abdominal cases to that surgeon. If he went directly to a busy practitioner, he might be told "There! there! don't worry," given aspirin and forgotten until the next visit, when the drug would be changed. Even if he went to a very painstaking, conscientious practitioner, the latter probably would not recognize the condition, and would not know what specialist to call. Within a few weeks of consulting any of these doctors he would perhaps be referred for an X-ray, and as this would be practically negative, still no diagnosis would be made.

If the patient happened to be an employee, he would lose in these ways the golden opportunity which is present immediately after the accident, and as week after week goes by, gets progressively more unfavorable. In Massachusetts our Compensation laws allow the patient to choose his own physician, and oblige the insurer to pay that physician for at least two weeks—the golden weeks for diagnosis and treatment of most injuries. The insurance examiner seldom sees the patient for some time after this, owing to certain forms of red tape, so that, as a matter of fact, no really early diagnosis can be made by even the examining physicians of insurance companies, to whom the early detection of this injury is most important from the dollar point of view. Those who will have the best chance to detect these injuries and treat them successfully will be the men on duty in great industrial plants and in the accident wards of great hospitals, but these men are often inexperienced. At present the orthopedic surgeon is the most likely practitioner to know that this lesion does occur, and to recognize it, but he seldom sees any kind of case until it has become chronic. Then, too, he usually has a physio-therapy equipment with a large overhead expense, and this might tempt him to procrastinate.

If the doctor who originally sees the patient is puzzled and does recommend a consultant, the chances are that such consultant will be one of his own ilk, or if not, some surgeon who is not interested in shoulders, but who has operated on a member of the practitioner's family, gratis, and for whom, therefore, the latter would like to do a favor. When in doubt, any doctor would prefer a consultant from his own medical school or from the hospital where he himself has been an interne, for his teacher is sure to say a good word to the patient's family in regard to his own abilities and standing. For most patients, a distant consultant is out of the question on account of the expense, and if the disease is rare or new, there is usually no one near-by who has given any particular study to it, so that the doctor calls in a friend, quite likely one of his own religion. I have said nothing about fee-splitting, for I wish to speak only of fairly conscientious practitioners, the units of our Tel-U-Where System, to whom, I insist, that at least the first of my claims should be advertised.

MY CLAIMS IN REGARD TO COMPLETE RUPTURE or THE SUPRASPINATUS TENDON

1. The lesion exists, is not uncommon, causes prolonged disability,

has a clear symptom complex, and may be relieved by a minor surgical operation, if it is promptly done.

2. Since it occurs at a time of life when general mental and physical degeneration readily ensues from enforced idleness, most patients never do heavy labor again, even after their compensation ceases. Thus the economic loss is great.

3. In Massachusetts the cost in compensation for this disability in an individual case is as great as from any major injury. To the man incapacitated it is a major injury. One hundred such neglected cases cost us more than the entire gross income of the average doctor during his lifetime.

4. Since the lesion is important to the employee and to his family, to the physician, to the hospital, to his employer, to the insurer, to the industry and to the consumer, the above facts should be advertised to all, because the relief of the patients, as well as a great saving, largely depend on its prompt recognition.

5. Hitherto, for twenty-three years the burden of advertising it by the usual professional methods has been assumed chiefly by me, at an expense greater than all my earnings from treating such cases.

6. My advertising has been ineffective, for I have not yet had a patient referred to me immediately after his injury. Moreover, the operation which I recommend is as yet rarely done in any hospital in the world; in fact, the lesion, frequent as it is, is still unknown, much less recognized in many of them.

Evidently there is a dense wall between the employee thus disabled and the writer, who thinks he knows how to relieve him. The patient consults other doctors who have not studied the shoulder; while I earn my living by caring for other conditions to which I have given no more, and perhaps less study, than have other surgeons. Could this wall be penetrated by any form of advertisement consistent with medical ethics? I believe that these patients and their insurers need me; I know that I need their money. How may I advertise to get such cases ? All concerned, from the patient to the consumer, have at least some reason for having the symptoms of the lesion, if not the discoverer, proclaimed. Should the

medical profession improve our advertising system or wait for business to do it badly through politics? These are my problems and yours.

Business has now tried the experiment of Workman's Compensation for some years, and is only just beginning to see that a large fraction of the expense is due to carelessness, ignorance or simply lack of being up-to-date, on the part of those doctors who give treatment during the first few weeks after all injuries. The fact that only one hundred neglected or unrecognized cases of any curable lesion may cost as much as the average doctor's earnings in a lifetime may engage attention, and lead business to conclude that our system for the advertisement of our units must be improved. This may be their point of view, although the same facts indicate that doctors should be paid more and expected to accomplish more.

Is it my fault that my advertisements have been ineffective? Look at the list on the chart in the preface. I have usually advertised debatable questions in their early stages, and most of the fields I helped to plow have flourished, although I have reaped little of the harvest. There has been delay on this matter of early operation for shoulder lesions, because the field was rocky and difficult, and in an out-of-the-way region. If I am right, surely I deserve more help, and if I am wrong I should, by this time, have been proved to be so. There should be some method of "put up or shut up," in such cases. I am quite ready to go to any great clinic for a practical examination. Collect for me fifty patients disabled for six months or more with injured shoulders, X-rays of which are negative, and I will pick you out several instances of complete rupture of the supraspinatus, demonstrate the lesions through tiny incisions, and if the patients wish, make an attempt to cure them, although the operation would be long overdue. And here comes the real difficulty with personal advertising. I cannot guarantee cure; on this fact rests our principle, which is misnamed an ethical one, that the doctor should not advertise in the public press. We would find an excuse quickly enough, if we could deliver our goods with a high degree of certainty. We would even consider such advertisement a duty.

There should be some method by which claims can be tested before they are advertised, even to the general practitioner. Obviously the first checking should be at the hospital where the work is done, the detailed records are filed, and where the patients have been examined also by

colleagues. The staff of the hospital, when convinced of the value of the contribution to clinical science, should recommend it for confirmation by the staffs of'all other hospitals. When these have sufficiently agreed to the essential claims, they should be transmitted to all those who practice medicine, by seme authority constituted for that purpose. In England this might be done through the panel system, but in our case it would have to be done through some great professional organization. The idea is present in the Year Books, but the material in them is not checked or corroborated in any way; it is only abstracted at the discretion of a few busy editors. It would be very unreasonable to hold doctors responsible for not reading the Year Books, but if there were an annual number of a great medical journal, which listed all important innovations *accepted by the hospitals*, all doctors might be expected to inform themselves on the practical details of each certified innovation.

If some such plan had existed twenty years ago, when I published the paper quoted on pages 126-129, by this time there would be thousands of workmen who would have benefited by it, and a vast expenditure would have been saved. To be sure, my contributions would have played an insignificant part among the many advances which have come during this period, such as Graham's dye, the Bucky diaphragm, insulin, liver extract and a hundred other far-reaching innovations of a striking and generally applicable nature. However, a shoulder which is too weak and sore to permit him to work, is just as important to an individual employee and to his insurer, as is a disability from any interesting and spectacular cause. The more trivial the condition and the more study required to understand it, the more need of organized effort to spread the news' about it. There is still much delay in diffusing the benefits of even the great discoveries.

We may now consider the questions of who may be interested in having such advertising done and whether they are doing anything about it.

1. Obviously the patient's interest in any plan is the first consideration, yet his share in diffusing the details can be but a very small one.

2. The practitioner can do somewhat more by telling his fellow practitioners about an individual case or two, but unless the condition is common and readily recognized, his chance of meeting another doctor

who has such a patient is small at best. Like the patient, he may readily be deceived or may deceive himself.

3. A hospital does not concern itself with advertising its ability to treat new conditions, until the staff begins to see some profit in so doing. Yet a hospital, once it established an End Result System of organization, would be in the best position to answer any patient's question, "What doctor obtains the best results in conditions like mine?"

4. The employer does not advertise the new lesion; he gets another man and regrets the expense and trouble.

5. The insurer shuts his eyes to most medical aspects and does not even estimate the cost of errors of ignorance, carelessness and of lack of being up-to-date, on the part of the physician giving the first treatment. He concerns himself chiefly with distributing the cost of all errors, whether avoidable or not, between the industry and the consumer. When he once realizes that many disabilities are preventable, he may see his way to helping our profession to advertise new methods which may prevent them.

6. Industry is already writhing with the excessive cost of compensation ; it vaguely thinks the doctors are making too much money; it does not realize that the cost of one hundred neglected cases would engage experts to treat a thousand, for it only thinks of the amount of its premiums.

7. Next to the individual patient, the consumer has the greatest interest, although he is unconscious of it. The patient feels the acute suffering caused by one neglected lesion, but the consumer bears his share of the total loss from avoidable errors in the treatment of all forms of accident. He could well afford to edit a volume to be distributed free to every physician to advertise approved steps in treat-ment. As an example, the cost saved by the prompt treatment of two cases of rupture of the supraspinatus might distribute 1,200 copies of this book.

Actually, our present advertising is not done by any of the above parties for whose interest it would seem important, but by two others — the organized medical profession and the discoverer of the lesion— and our present methods are expensive and ineffective for both.

The medical profession, even against its apparent interest, has assumed a certain duty to present such information to its units, and, as we have previously mentioned, does this in a confused way, through its journals, its societies and its schools, for it is an enormous body, loosely organized at best. It has only recently recognized the duty of advertising to the public at large. The magazine *Hygeia*, the press articles of Dr. Evans and others, are highly commendable efforts to perform this function. Yet the knowledge which they endeavor to advertise often could not stand the acid test which I recommend, of subjecting claims to corroboration by hospitals, before they are put authoritatively before the units in a way which would compel the attention of every doctor who is in active practice.

To the layman the wranglings of the medical profession are so confusing that legislation can barely be secured to maintain proper boards of health, good standards of medical education and of licensure. Money can barely be obtained to permit health boards to advertise the public concerning serious epidemic and contagious diseases. However, I am confident that if the American Medical Association did publish a single annual number of its journal, with a *resume* of tested and *accepted* advances in medicine and surgery, some one would see to it that such a publication was made available without cost to every doctor not a member of the association, and expect from him a certain degree of responsibility in return.

The Federal Government recognizes a duty to advertise the farmer in regard to the diseases which affect his crops and his cattle. It has laboratories for the investigation of these diseases. It is becoming more attentive to the diseases and injuries of man, but it waits for the medical profession to give some tested, authoritative list of *accepted* improvements in every field of medicine. Slowly it will see the economic importance of injuries and diseases which cause disability, even if they are apparently as trivial as is the one which is the subject of this monograph.

With one exception, we have briefly considered those who are chiefly interested in having new methods of diagnosis and treatment diffused; that exception is the discoverer himself. It is human nature which is to be relied upon in his case, for his Ego usually impels him to seek money or fame. The pathfinders usually thrust the duty of advertising discoveries on themselves, for sometimes their own interests

are involved. Even incredulity and opposition whet the ambition of some natures, and the self-imposed duty becomes an obstinate form of egotistic assertion. We enjoy the struggle to be believed. Such may be my own case.

If I could frankly and impersonally analyze my own feelings and ambitions in regard to bringing the lesion which is the main subject of this book to the knowledge of every general practitioner, I might throw a helpful light on the problem stated on the first page of this epilogue.

As a preliminary statement, I assert that I certainly should not have spent five years on this book merely for the philanthropic purpose of instructing the medical profession. It would not have been worth while, had I not felt impelled to use the subject to illustrate the End Result Idea, in order to point to the fact that any hospital which will follow up its cases of shoulder injury, will find instances of this lesion and be able to recognize and to relieve them, and that this would only be one instance among many. As a product of such analyses both the discovery and the discoverer would be automatically and effectively advertised.

I might have written this book twenty years ago, in a more active stage of life. I admit that while engaged with the far more interesting and varied experience of earning a living as a general surgeon, I feared that if I wrote a book on this subj ect, my friends (competitors) would specialize me. It is far more interesting when you get up in the morning to realize that today you may remove a gall bladder, a stomach or a colon, or do a circumcision in a millionaire's family, than it is to know that you will painstakingly do a fussy little shoulder operation just like one which you had done the day before, and the day before that, and the day before that. It is worse still to realize that meantime your reputation as a general surgeon is diminishing and the major surgical cases of absorbing interest are falling to your less studious colleagues.

To some extent my friends have thus specialized me, but I have postponed my decline by shirking writing a book on this subject. This I admit, but not with pride, for I regard my behavior as narrow-minded and due to silly human weakness. There is always a mental wrestle between the general and the particular. No ambitious man cares to achieve in only one subject. We all want to be broad rather than narrow, and since few have the innate mental capacity to gain success in many or even in

several paths, we become "jacks of all trades." However, it seems to me that a man is more likely to be happy if he follows the path he is fitted for, rather than to allow himself to dabble with the things that excite and interest him for the time. We have today thousands of surgeons, each doing hundreds of different operations on the same list, without having time to give thorough study to the anatomy and pathology of all the various regions of the body on which they are called to operate. For instance, most surgeons have paid little attention to the shoulder.

Each dreads that he may be specialized, especially in any minor, non-lucrative field, such as in that of this lesion, which does not occur among the well-to-do. To devote himself to such a thing would mean not only more study, but less pay. It is better to be known as a skillful operator, who may be assumed to be clever at everything, for the public knows little of the relative value of knowledge of anatomy and pathology as compared with dexterity, in determining the success of an operation. Thus it was perhaps worth while for me to write a few articles to draw attention to my ability as an observing young surgeon, but writing a book on the shoulder would have been very poor business, for, so far as my major surgery was concerned, my friends would have said, "He does only shoulder surgery."

Later (1928), when I laid out my plan to use this lesion as an illustration of the End Result Idea, it was at a time of plenty as shown by the chart in the preface.

At that time my mind projected my ambitions in somewhat the following order:

1. To hasten better medical service to the public through improved hospital organization.
2. To illustrate to all hospitals some of the advantages of the End Result Idea.
3. To make the life of a doctor count more to himself and to his patients.
4. To enable great medical societies to be of more service.
5. To render our medical journalism more effective.
6. To make our medical education more logical.
7. To contribute to the advance of medical science.
8. To influence the H. M. S. to seize the E. R. I.
9. To help people with sore shoulders.
10. To obtain more such cases to treat.
11. To lay up money for my heirs.
12. To get some just to spend.
13. To enjoy my life.
14. Ego.

Now, 1933, turn to the chart again and behold the curves of income and their trends! I have not changed my investments for I have neither bought nor sold, although I have lent and borrowed, and still owe more than I can pay. The rest of my book is actually in page proof, but I am confronted with a bill of five thousand dollars, for I had planned to have this peculiar book printed for that sum. Neither the printer nor I, both coming from generations of "respectable" people, who have prided themselves on paying their bills, dreamed that a condition would arise such that I might not be able to pay nor he to collect. Yet such is the fact, unless the book "sells." Thus I am compelled by circumstances, which have been largely out of my control, to invert this pyramid of purposes, although still, the satisfac^ tion of the Ego forms the apex.

1. Ego.
2. To enjoy my life.
3. To get money just to spend.
4. To lay up some for my heirs.
5. To obtain more such cases to treat.
6. To help people with sore shoulders.
7. To influence the H. M. S. to seize the E. R. I.
8. To contribute to the advance of medical science.
9. To make our medical education more logical.
10. To render our medical journalism more effective.
11. To enable great medical societies to be of more service.
12. To make the life of a doctor count more to himself and to his patients.
13. To illustrate to all hospitals some of the advantages of the End Result Idea.
14. To hasten better medical service to the public through improved hospital organization.

Then, 1928, the satisfaction of the Ego was to be obtained by the broader purposes for which my effort was made, for I had money to spend and something laid up for my heirs. I was earning a living, and I was slowly teaching others what I could about shoulders. In like manner, my other ambitions were tending to become fruitful. Now, 1933, my Ego sees in large letters chiefly the narrow portion; to enjoy life, I need money, and I have none to spend. My fixed expenses so nearly equal my income that my heirs would receive nothing, should I die. I have even borrowed to the full extent on my War Risk Insurance. Beyond my immediate necessities, the other broader plans are rather hazy. Thus in these five years the subject of the ethics of professional advertising has become a very personal one to me. I must in some way earn my living or be dependent on others. It would seem reasonable that I should do so by treating patients with sore shoulders.

Now, then, my colleagues, I ask you how can I obtain such cases ? You must admit that I have studied disabilities of the shoulder, more than any of you have done. Will you send me your patients? You have not done so in the past, for most of my cases have come through a few personal friends. Or will you buy my book? I will admit that I rarely buy your books.

I feel that your answers will be negative, if not still stronger. You will say to me, "Leave out your outrageous egotistic preface, your insulting epilogue and your commonplace cartoons, and put your book in the hands of a publisher. He will call it to the attention of every doctor in the country, advertise you as 'the well-known authority,' and in every possible way, however flagrant, his agents will try to get their commissions. Leave it to him; don't soil your hands with advertising. Get your friends to write complimentary reviews for the medical journals, so that your publishers may quote the most florid phrases. Even if nobody buys your book, the salesmen will tell the practitioners throughout the land about you, for they can make no sales without praising your knowledge. Thus you will diffuse your ideas, and operations for your pet lesion will be done everywhere. You will soon have plenty of patients—many of them the failures of other surgeons, who have tried to follow your instructions. Make appointments so that there will always be some one in your waiting room, especially your most successful cases. Have your failures come by themselves, if they can pay; otherwise, don't see them at all. Stick to our regular methods and you will soon be an

acknowledged expert, and your patients will expect to pay good fees. No layman appreciates a doctor's advice unless his waiting room is full and his fee is large. Make a success of your own practice, if you want young men to follow you. Efficiency! ,_Nonsense! Don't be so foolish as to say you have spent five years in writing a book recommending immediate suture when you have never done it! Other people will mention your faults and failures enough. Don't write about them! Remember that in our business, as in many others, we must sell what the public demands. You cannot educate it to be End Result-minded in your time. People still believe in gods and fairies, in the serpent of the Garden of Eden, in the patent medicine advertisements, and in a hundred mystic cults. You will get no satisfaction when you are dead, for your memory would never be as cherished as that of Mary Baker G. Eddy or as those of the great spiritual leaders, whose psychic energy would make your helpless patients elevate their arms (unless compensation was being paid) and swear they had no pain! Be reasonable; treat the patient, not the lesion. Lie to him, and to his family if necessary. They expect it from you, just as they do from a political orator. Your own moderate success shows that you can be a humbug, when it is necessary for your personal comfort. Be moderate in your old age. Your friends and relatives will be glad to have you retire, and go fishing, and so will your fellow members, if you will stop writing. The shoulder part of your book is all right; why not leave out this End Result Stuff?"

My answer is that to leave it out now would be to me like working for years on preparing a balloon for a long journey of adventure, and at the last moment having the builder insist on having my scientific apparatus removed for fear it would be too heavy, and prevent my return and the payment of the bill. The portion of the book on the shoulder is the balloon, but the really important part of the expedition is in the basket below, containing the preface and epilogue. I designed the balloon to advertise the End Result Idea, and I was planning to pay for the trip as a luxury, provided the whole affair was built on my specifications. It was my balloon, although five hundred members of the American College of Surgeons had promised to be backers to the extent of each agreeing to purchase a report of the trip for five dollars. I did not submit the manuscript to a publisher, for I felt there was little chance of one accepting it with the "sales value" destroyed by two cartoons, a preface and an epilogue, which ridiculed our most sacred medical institutions. This would have been his point of view, even though the central portion of the

book might be an excellent and enduring monograph. He would point to that ugly truth displayed in the basket, that few hospitals have any individuals, committees or departments, whose duty it is to persistently investigate the results of medical and surgical treatment, in order to prevent waste products in the forms of unnecessary delay, suffering and failures in achieving relief or cure in each individual case.

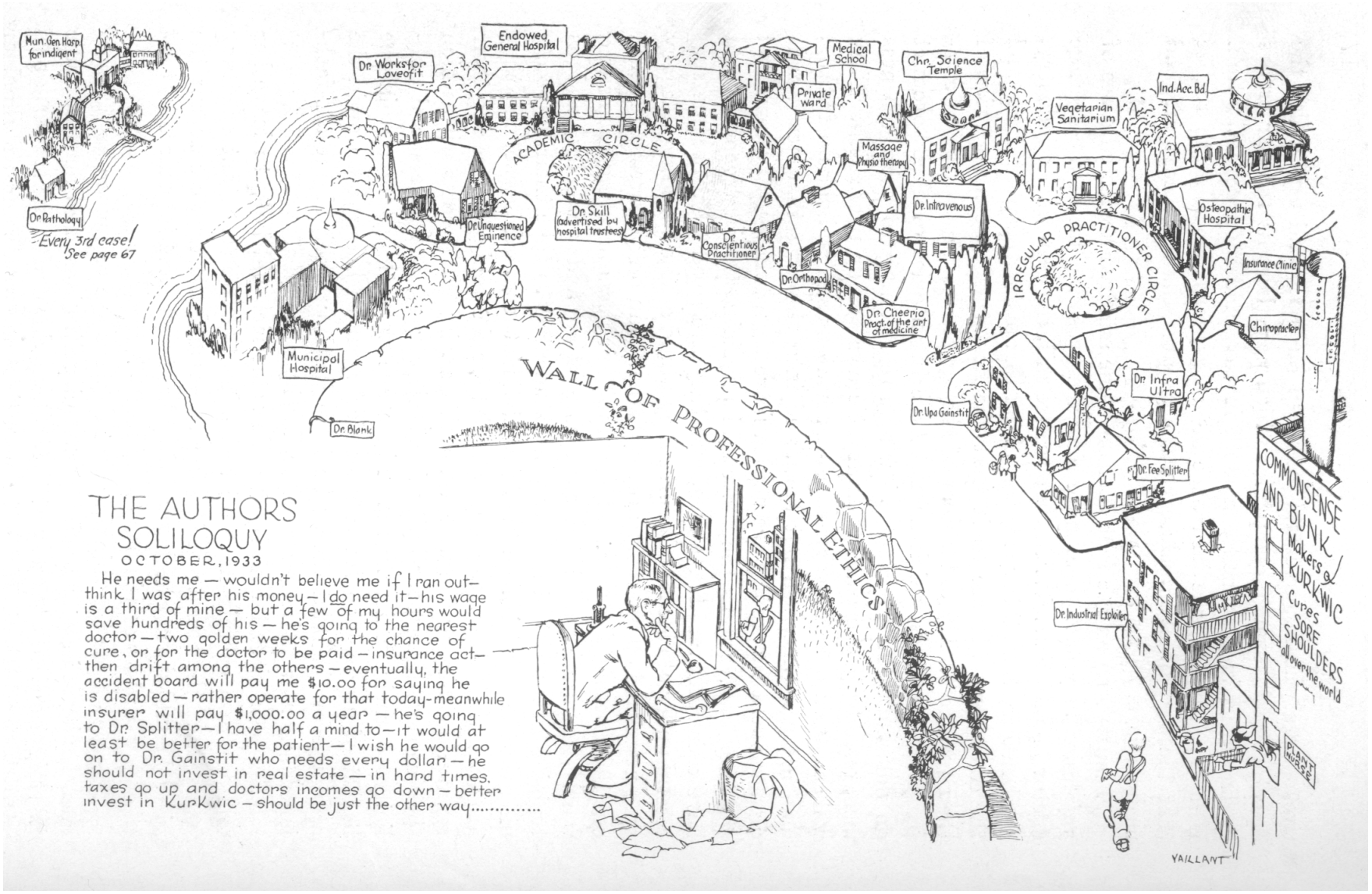
There has been a very earnest attempt to make the central portion of this book so good that it would be worth at least five dollars to each of the subscribers, and afterward go about the world for a decade or more as a standard work on the shoulder. I feel sure that it will be at least ten years before any other surgeon would, if he could, take the time and trouble to write a better one. The question is whether the buoyancy of the "sales value" of the shoulder part can carry, what seems to me, its far more important, though unpopular and heavy basket, which flaunts a banner at which presidents of endowed universities cannot afford to look, and even those of state universities would need their smoked political glasses, for the first shock. Even if the balloon floats across the sky, there will be but a small number of surgeons who will notice SHOULDER in large letters and care to study it carefully. However, it is not wholly through surgeons that I hope to plant my ideas in suitable soil where they may flourish. I must somehow reach those who think about hospitals in terms of dollars; those who arrange investments and engage auditors, executive officers who manage and make up budgets, and especially, the directors of insurance companies which pay the bills for our errors in diagnosis, in judgment, in skill, in care and in procrastination. Industry, through the insurance directors, must be made to realize that the cost of avoidable errors is greater than the cost of good medical care.

I must harp on the fact that only one hundred neglected cases of any lesion may cost them more than the gross income of the average doctor in a lifetime. When they realize this, the captains of industry, the bankers, the statesmen, the philanthropists, the politicians and the educators, will see to it that the hospitals take inventories of their products. My old slogan of the hospital standardization campaign: "Hospitals which do not take inventories of their product do not audit their accounts," will have meaning to these business men, once they overcome their mystic awe of our profession. They will ask questions of our trustees, superintendents and chiefs of staffs, and, after a time, will not be misled into thinking that new wards or new operating rooms are needed more than follow-up systems and efficiency analyses, as the

successful physicians and surgeons would have them believe. These men, and they are good men, became successful under old ideas; of course they would advise spending a legacy on a new ward or operating room, rather than on a system to search out their personal errors. They want their new operating rooms and wards for more individual experimentation and publicity, and as training grounds to turn out more students "to take their responsibility as the physicians of the future." In other words, as soon as they are given their degrees, to begin to aim for the goal of increasing their reputations among the well-to-do classes, by the success with which they can evade responsibility for their errors, and give social publicity to their achievements. These are ugly things to put in the basket of my balloon for the enemies' guns to bring down amid the applause of the multitude, who have justly worshiped the old-fashioned, and now no longer possible, family physician.

Suppose that I could persuade some rich old lady to leave her millions to a certain hospital to be devoted to a constant efficiency analysis of the results of treatment—would the trustees accept the gift? Would she not be dissuaded by her lawyer and influenced instead to endow a new ward in her own memory ?

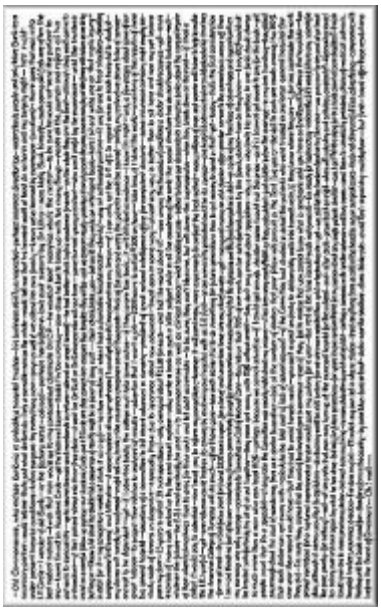
Shame on me for thinking that doctors are as human as business men, bankers, insurance directors and politicians, and need periodic investigation! Shoot away at the balloon, down with the author, down with the End Result Idea; if the stuff he has written on the shoulder disappears in the sea, it is no great loss!



THE AUTHORS SOLILOQUY

OCTOBER, 1933

He needs me — wouldn't believe me if I ran out— think I was after his money — I do need it — his wage is a third of mine — but a few of my hours would save hundreds of his — he's going to the nearest doctor — two golden weeks for the chance of cure, or for the doctor to be paid — insurance act— then drift among the others — eventually, the accident board will pay me $10.00 for saying he is disabled — rather operate for that today-meanwhile insurer will pay $1,000.00 a year — he's going to Dr. Splitter — I have half a mind to — it would at least be better for the patient — I wish he would go on to Dr. Gainstit who needs every dollar — he should not invest in real estate — in hard times. taxes go up and doctors incomes go down — better invest in Kurkwic — should be just the other way.....



As a matter of fact, I think I have a higher ideal of the character of the doctor than has the general public. If I did not believe that most doctors choose their profession in order to be of service, I would not appeal to the members of the American College of Surgeons. I believe we are much more interested in keeping our profession clean than is the public. The rich old lady wants to have her dear doctor at her bedside to inquire about the condition of her bowels, rather than to have him operating on a difficult emergency at the hospital, especially if the interne, who is taking his place, is her nephew, who is learning how to be a prominent surgeon. Under present conditions one cannot blame her and can only praise her nephew, if he seizes the opportunity.

It is because I do believe that there is a chance that the American College of Surgeons may adopt some of my ideas that I have continued to appeal to its members, and have, as a last effort, addressed them in this volume. The first printing of a thousand copies will be exclusively for them, but if my claims in regard to the supraspinatus are confirmed, I may eliminate the objectionable portions, and perhaps be able to sell the rest of the book to a publisher. However, at least for a time, a thousand copies of the balloon will float about our private sky to try the marksmanship of my friends. Let them think before they aim at either the balloon or the basket, for the balloon is, for a time, invulnerable. There is no use shooting at it with mere abuse. Ignore it, do not point to it, distract every one's attention from the banner it flaunts, but don't shoot at the basket—it might fall on you before you are ready to receive it. And besides shooting at it will only call attention to it. A few holes in the banner will do no harm, for the material is simple homespun truth. As for the balloon itself, the only missile which can bring it down will be a better book on the shoulder, and to write that will take some time. So long as it is the best book on the subject, it will carry its unpopular load, for doctors themselves sometimes have sore shoulders and will consult it in spite of the cartoons. Now and then some layman will find that although the shoulder part must be studied, the rest need only be read.

Who knows but that some day a copy may be dusted off in a library and shown to some lonely old hospital trustee, who has money which he may bequeath in order that an annual inventory may be taken of the products of his hospital. I am convinced that if a single great general hospital once did this thoroughly, the others would have to follow. Perhaps I might have made more use of my own life, if I had devoted my

energies to exploiting some patent medicine or breakfast food, in order to leave a fortune for this purpose!

To make my suggestions more concrete, I submit the following plan to the American College of Surgeons:

(1) An annual letter to every approved hospital, asking for a list of the original contributions of the staff, which they consider should be known to every general practitioner.

(2) A Committee of the College to receive the answers to this letter, and to select from them a limited number of subjects for study and confirmation by other hospitals.

(3) A report from the Committee to all hospitals giving its selected list for confirmatory study, and also the entire list stating that confirmatory studies of the unselected innovations would also be welcome.

(4) On receiving these lists, each hospital would assign one or more members of its staff to give particular study to each of the selected subjects, and call for volunteers in the others. At the same time the staff would give authority to members who accepted these assignments to treat all such cases coming to the hospital, irrespective of what wards or on which services the patients might be admitted.

(5) At the end of a year or more these chosen members of the staffs would make critical reports to the Committee, confirmatory or otherwise of the originator's observations and claims.

(6) The Committee would then, in cooperation with the Committee on Scientific Meetings, arrange for discussion of the selected subjects at the annual meetings of the College, giving the originator in each case the opportunity to read the central paper, which would, of course, appear in *Surgery, Gynecology and Obstetrics*, together with the discussion it provoked.

(7) A single annual issue of *Surgery, Gynecology and Obstetrics* to be edited for the general practitioner, giving statements of those advances of which he should have knowledge, and the names of those in

all hospitals who have confirmed these advances, and have thus fitted themselves to treat such cases.

(8) An announcement in this special Journal to the members of the profession not affiliated with hospitals, that original ideas which they individually may have, will be listed for investigation, if, in the opinion of the Committee, the ideas are important and the originator's claims are endorsed by other responsible individuals.

Among the advantages of such a plan would be the following: (1) *The effect on individual hospitals*. In many hospitals at present there is little or no effort made to contribute to medical science. Usually this inertia is due to modesty, but even in a most remote place, there may happen to be individuals who have unusual capacity to do original work, or, at any rate, a willingness to do their bit in helping to verify original work. Such men would be stimulated to make efforts which they do not now make at all. Their confirmatory work might be oi great value, and would be sure to be of some value. Patients in their communities would benefit by their study, as would also their colleagues.

Hospitals which already have reputations would be eager to justify them. Such hospitals are usually manned by young men who desire to contribute to medical science; this plan would relieve these men of the often distasteful and expensive work of making their contributions known to the practitioner, who, in the end, will be the one to use them. Moreover, there is a self-depreciating type of man who must have his publicity done for him, and his hospital will want the credit for his work and make him present it properly. Another effect would, in my opinion, be still more important although less obvious. I think this plan would increase the spirit of cooperation in a hospital staff. The spirit of cooperation among the staff members of small hospitals is often high. If one of their number were willing to take part in such a research, either in presenting an original communication or in cooperating to verify one, I believe that others would give him all the help they could, not only at the hospital, but by asking him to see their private cases, for it is obvious that most men cannot devote much time to such studies without some thought of sooner or later profiting by them.

It is not unlikely that some of the best material would come from hospitals with no academic affiliations or time-honored traditions, for the cases treated at such hospitals are just as varied and interesting, and

offer as much to the original mind, as do those at the most famous clinics. Some geniuses who are hidden might be thus revealed. The main objection would be more work, but this would be voluntary, and, in my opinion, would be welcomed by a few members of each staff. Of course there would be men who would shirk doing their bit, and this might create some hard feeling, but I do not believe that the total amount of hard feeling would be greater than at present, for this depends on the friction of characters rather than on facts.

(2) *The effect on the general practitioner*. One can hardly doubt that if next year the College asked every approved hospital to make an investigation of all shoulder injuries, that, at the end of the year most of the practitioners in the country would know at least that such a lesion as is the main subject of this book does occur, a fact which certainly many do not know now, even in this community, where I have talked about it for years.

In the first place, in each hospital, the responsibility of studying the question would be assigned to one man, and he would soon teach the salient points to the other members of the staff. If he examined the bursae at all autopsies, he would soon be able to demonstrate the lesion. When he had learned the local anatomy, it would not be long before a clinical case could be found; he would operate, and his colleagues would have a chance to see the lesion and observe his technique. At a meeting of the local medical society, he would show the case, explain the diagnosis and findings, and review the subject in general. He would accentuate the importance of prompt diagnosis and operation, and urge every one to be on the lookout for an early case, explaining that the College was asking for a general research, and he was doing his bit for a year. Practitioners generally take a certain pride in bringing to the hospital "interesting cases." Even this searching method would still not reach a considerable fraction of those who practice medicine. In most cities, and perhaps in many towns, our professional meetings, although open to the medical public, are not well attended. One reason is that the multiplicity of unauthoritative and often impracticable papers has worn down the enthusiasm of the local doctors, and what little desire they may have retained to keep up-to-date. I believe that sparks of interest would be fanned into flame, if they realized that we were making a national effort to study for a time a particular class of case. Then, too, they would know who to consult if a case turned up in their practices.

(3) *The effect on the patient.* The College was organized for service to ourselves and to the community at large, and it has had a remarkably successful record in so doing, particularly in the latter object. Service in advancing surgical science and in giving the community the benefit of .that science efficiently, honorably and reasonably, has naturally been our chief field of endeavor. Service to the patient is the central idea, and insisting that hospitals ascertain the degree of service rendered, in order to constantly improve the value of service to be given future patients, should be almost as sacred a principle. The plan I have suggested is merely another phase in the campaign in which these two banners are carried. The present activities of the College have the same general purposes. The Committees on Fractures, Malignant Disease, Registry of Bone Sarcoma, Industrial Surgery, Scientific Meetings, Publications, etc., all aim to put at the service of the public, through the general practitioner, the best which surgical science can give. These efforts are expensive, our dues are already a burden to many of us—why add another item to our budget in these hard times ? Certainly there should be good reasons.

(4) *The effect on the College.* Apart from the satisfaction of performing a great human service, there would be certain points by which our present activities would be increased in value. For instance, the general meetings of the College at which the subjects of joint research would be eventually discussed, would be vastly more instructive and entertaining than under present methods, by which we listen to constituted authorities. To hear an authority on a subject of which one knows nothing, can never be so interesting as to hear him speak about something on which one has had some opportunity to form one's own opinion. If one's hospital has been doing its bit, each member of its staff will inevitably have some opinion, even if he himself has not done the work. Indeed, at the end of a year or two, when the subject is no longer an assigned one, every member of the staff would have to care for his own share of the cases in question.

The quality of the papers eventually presented in print would be better, because under the encouragement of their own hospitals, and in the limelight, the readers would take greater pains. Not only would the quality of the papers improve, but those of poor quality, read for purely personal advertising purposes, would tend to diminish in quantity,

because discouraged by lack of recommendation from their own hospital staffs. Pointless papers read by local authorities would be less apt to be committed to print. Then, too, opportunity counts. For instance, I have no doubt that a surgeon for some great mining plant would see as many instances of rupture of the supraspinatus in one year as I do in ten, and could make a more informing study on that account.

Finally, the annual publication of one number of *Surgery, Gynecology and Obstetrics*, edited with the idea that it is to go to a vast number of general practitioners and contain only the salient points of new surgical discoveries, would be an interesting volume to all of us, as well as to the practitioner. It would chiefly concern itself with the diagnosis rather than with the treatment of the lesions in question. Results, supported by the reputations of the hospitals concerned, would be dwelt upon, for the practitioner needs to know what his patients may expect, rather than long descriptions of pathologic appearances, technical procedures and erudite theories such as most journals now contain. It would also give the practitioner a list of those who had taken part in confirming investigations, and this would serve as a directory to the nearest local consultant, who would be up-to-date in regard to that particular question. The authoritative and relatively impersonal character of such a volume would intrigue, if not demand, their interest. It would contain also those portions of the reports of the special Committees of the College, which would be of interest to general practitioners. It would attract notice in the daily press.

Perhaps our example would be followed by the American Medical Association, which might issue a similar number regarding accepted medical advances. Such a volume might take some share of the attention which practitioners now give to the commercial druggists' advertisements, the volume of which proves that they are now read. In fact, some of these advertisements are perhaps more truthful and scientific than some of those which we publish as "papers." Our Tel-U-Where units need help. How can they function as advertising stations and individually select what is worth advertising? For instance, what does the general practitioner know of the early symptoms of poisoning due to the modern, complex chemicals which are of ever-increasing use in industry? The unexpurgated deluge of medical articles through medical journals and the bulletins of commercial druggists, to the abyss of proprietary advertisements, is constantly increasing. The most acute practitioner

cannot distinguish the wheat from the chaff, and little organized effort is made to help him. He cannot even afford all the Year Books, or understand them if he reads them. In his confusion he finds it better to adhere to the old methods he was taught, years before, in the medical school. I need say nothing more of the evident importance to our national economics and to industrial insurance, which might result from some such plan as I have outlined.

Arguments have been presented to show the need and the possibility of a form of advertisement consistent with reason and with our ethics. What of the counter arguments ? I have been unable to think of any of consequence, except the financial one and the difficulty which might be experienced in getting cooperation from hospital staffs. The former is clearly not a serious one, for a cost price could be charged for the single annual copy of the Journal, but I fear the latter may be. Surgeons are loath to make changes in their habits of work. We all like to try our hand at each new operation, and the idea of dividing up newly-discovered and interesting cases among our colleagues for purposes of intensive study, is not welcome to us. Those of us who have the gift of being successful, seldom have the time for intensive research and like "to try anything once" with a minimum of study and record of results, so that we may be somewhat prepared to use the experience for a private patient. To choose one of our colleagues to study a series of cases for us and for the College, even though only for a year or two, would require a certain magnanimity. Yet surgeons have done this. The staff of the M. G. H. has now done this for many years, as I have explained in the preface. I can think of no other valid objections, except the question of an initial power sufficient to overcome the existing inertia in order to give momentum to this plan.

You may not approve of my suggestions. You may not even take the trouble to test the statements made, after our usual professional manner, in the central portion of the book, in which there is scarcely a chapter without one or more original observations which need confirmation by other students, before they should go to the practitioner. Yet, sooner or later, according to our usual customs, you will try by haphazard human experiments the operations which I recommend. You will do these experiments individually, without careful record or publicity of the failures, merely to satisfy yourselves that you each can make the diagnosis and accomplish the technical procedure. Why not try an

experiment now, with this one relatively unknown form of injury to see whether by an organized effort you can test my claims and then diffuse those ideas which prove to be important? Would this not be more sensible than to permit me to write a book for a publisher to broadcast as authoritative, or to allow one of our colleagues to say in a respectable medical journal, that the intravenous injection of a certain drug is 100% effective in bursitis? Your present ethics encourage us to have such advertisements.

You may object to my personal form of presenting this problem and tell me to try the drug which my colleague recommends so highly, for my own analysis shows that my results are far less satisfactory than those which he describes, except in the milder forms of bursitis, which get well soon with no treatment but rest. Well, then, use his claims to test, and afterward to proclaim. Perhaps the makers of the drug will contribute the expenses for the experiment. Let them have your authority, as well as that of the prominent surgeon, whom they are now at liberty to quote in their publications to the practitioner, without any infringement of our ethics. If the fact is confirmed, it should have as wide a publicity as possible. Dr. Richards tells us that he made the discovery of this remarkable cure by accidental observation in a case where the drug had been given for other reasons, but promptly relieved a coincident bursitis, from which the patient was suffering. The surgeon repeated the experiment in seventy other cases with the same success; then he felt that he should let others know of this simple procedure so that they might relieve their cases. He can no more be blamed if the makers of the drug advertise him to the ends of the earth, than I may be, if a publisher advertises me.

I might give you many other instances of innovations which, if true, should be broadcasted and which you may substitute for what I have to offer. It is safe to say there would be a hundred such in the journals which appear every month. You will say that you cannot investigate all these. I do not ask you to—only those on which the writers have the endorsements of the staffs of their own hospitals, and of these, only those selected by your committee as especially worthy of transmission to the general practitioner. You may rely on the combined staff of a hospital not to recommend the work of one of their number unless they are proud to do so. They are in the best position to know whether his work is sincere and accurate. One's colleagues are very critical; indeed, I think the

danger would be that the annual reports from many hospitals would be negative as to new discoveries, for their reputations would be safer, if they kept the lid on boiling enthusiasm. The pressure of a real discovery, however, would soon be too strong for the combined efforts of jealous colleagues to resist. A young man could afford to take time to convince his fellow members, for after that was once done, he need not concern himself about convincing the rest of the world, piecemeal, as he must now. It is partly because I have had uphill work in fighting for my pet lesion that I desire to make a path for other more able and less obstinate young men, who are willing to work, but are too modest (or too poor) to battle for their discoveries. My circumstances have been such that I could afford to fight. If I had had children I could not have devoted so much of my life to such luxuries.

You may say, if you please, that I have written this book for my personal gain. I have. You may say that I want all hospitals to investigate shoulder lesions, so that I can sell a copy of this book to each hospital. I do. You may say that I want more consultations and operations on cases of shoulder disability. I do. You may say that I would be glad to have more surgery of any kind among well-to-do patients. I would. Does not your "shingle," like mine, tell the world much the same things? Such accusations I will not resent unless you allege that I have written this book wholly for my personal gain. I insist that you credit me with at least the ambitions listed in the order of my pyramid with the apex up, no matter how hazy the base may be in these hard times. Write down your own motives and compare them with mine; are they in a very different order, especially toward the apex?

Your signs of Dr. or M.D. tell the world that you are units of our advertising system, which should enable patients to reach appropriate doctors. Are they?

If you are a great statesman or scientist, the base of your pyramid may be so large and well-proportioned that it would form a sphere about your ego, while mine is not symmetrical, for it extends only in the portion limited to the surgical field. I feel no call, as must the president of a university, to study deeply into politics, law, finance, journalism, philanthropy, or into the many other worthy fields of human endeavor. My limited brain is fully employed in my relatively small field. You may be more conservative, and, avoiding all detailed study, feel that you do your

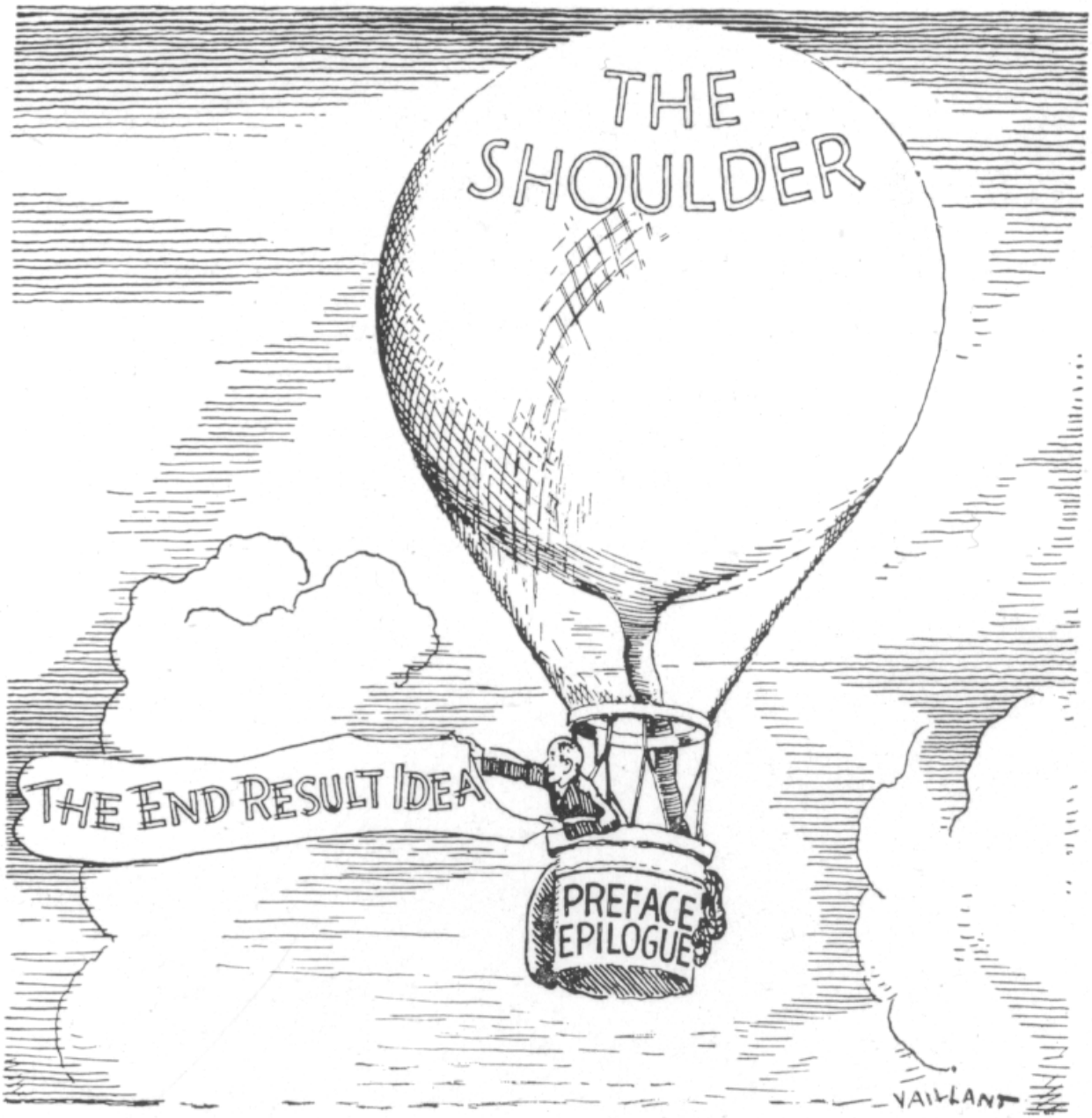
bit by being a good-natured deadweight on all enthusiasts. You may feel that you are leading a more rounded life, but your ego will still be the center, and the circumference of your sphere perhaps be smaller than that of my unsightly pyramid, if I can extend it sufficiently in one section. On the other hand, your sphere may be large and still symmetrical, if you are always ready to give an ear to those who are devoted to special forms of service, and to champion them, if the evidence they have accumulated appeals to }rour intellect apart from your prejudices and emotions. If you are such a person, I crave your help, for it is mainly by convincing such as you, that such as I may succeed.

Thus for the present my ideas about the shoulder, as well as about advertising, are in the hands of those of my colleagues who have subscribed, or may subscribe, for this book. A thousand copies will not travel far without a publisher. You may prefer to let well enough alone, and continue to try your individual experiments for yourselves, to see whether you can make the diagnosis of complete rupture of the supraspinat'us tendon and think out better methods for operating; my suggestion is merely that each hospital should appoint a young man to study the subject thoroughly so that he can do these experiments on a Tational basis. If you each experiment to see whether you can do them, it will take much longer to establish routine and effective procedures. The subject is too complex, and there are not enough cases for you all to experiment upon, even if you each took the pains to read this book. Besides your errors are expensive for us all. Let the man who does this work make some reputation among your local practitioners and insurers, so that your communities may be saved an expense that will be greater than all the money he will earn in a lifetime. If he does this well, give him some other problem to solve, and if he does that well, credit it to him when there is a question of promotion on your staff. Remember that the years he devotes investigation of this subject for you, may set him backward in his ambition to be a general surgeon unless he makes some contribution to our knowledge of the subject. His capacity for original work and sincerity are on trial and he might fail.

What difference does it make to you if he buys my book? I believe I have something to sell him, although what I have for sale is too crude to sell to every practitioner. After all, I have never yet sutured a supraspinatus tendon immediately after the accident which ruptured it. I may not be right in spite of my evidence and my convictions.

My work may stimulate some one to write a better book, and that may be detrimental to the prospects of my heirs. However, if my work or my writings succeed in bringing about the establishment of an End Result System of Organization in our hospitals, even a few years earlier than it would otherwise have arrived, I shall have left to the children of my great nieces and nephews, more than a money value, although they will share it with all the other heirs of the world.

Most people desire to leave money to their heirs chiefly to protect them against sickness and injury. If our children's children have health, and are assured of the maximum benefits of medical science when sickness or injury does overtake them, they should enjoy looking out for themselves, and providing better conditions still, for their own third and fourth generations.



From "The Shoulder" by Ernest Amory Codman, Thomas Todd Publishers, Boston, 1934