

Dr. Warfield Monroe Firor Discusses

William S. Halsted

Walter E. Dandy

and

Dean D. Lewis*

* Comments About the Surgical Chiefs at the Johns Hopkins Hospital
Between 1918 and 1938, an unpublished paper by Dr. Firor bound
with the two interviews.

PREFACE

Dr. Warfield Monroe Firor (1896-) of Baltimore, Maryland has been intimately involved with the Johns Hopkins Medical Institutions since he entered medical school in 1917. He has been connected with the Department of Surgery of this institution since 1921 and his internship on the surgical service of Dr. William S. Halsted. His close ties with the Johns Hopkins Department of Surgery through the years as well as his important and respected role with the American Board of Surgery and the Conference Committee on Graduate Training in Surgery make him uniquely qualified to discuss and evaluate the contributions of men like Dr. William S. Halsted, Dr. Walter E. Dandy, and Dr. Dean Lewis. (There is no taped interview dealing with Dr. Lewis, but a copy of an unpublished manuscript written by Dr. Firor that deals with Dr. Lewis in depth is bound with the interviews on Dr. Halsted and Dr. Dandy.)

These interviews were held in Dr. Firor's office at 1 East Thirty-first Street in Baltimore, Maryland on February 9 and 28, 1967. Dr. Firor was candid in his commentary but elected to speak of some controversial matters

"off the record" (not taped). In the opinion of the interviewer, he was forthright, completely honest, and had a superb memory for past events.

Peter D. Olch, M.D.

History of Medicine Division

National Library of Medicine

CURRICULUM VITAE
of
Warfield Monroe Firor

Graduated Baltimore City College 1913

A.B. Johns Hopkins University 1917

M.D. Johns Hopkins Medical School 1921

D.Sc. (Hon.), Western Maryland College 1957

Resident in Neurosurgery, Johns Hopkins Hospital, 1923-25

" " Surgery " " " 1926-27

Acting Surgeon-in-Chief " " " 1939-41

On the teaching staff, Johns Hopkins Medical School since 1922

Professor Emeritus of Surgery, Johns Hopkins University

Visiting Surgeon.....Johns Hopkins Hospital

Church Home & Hospital

Union Memorial Hospital

Sinai Hospital

Maryland General Hospital, (Chief of

Staff 1949-58)

Member: American Surgical Association (President 1963-64)

Society of Clinical Surgery

Southern Surgical Association

American College of Surgeons

Society of University Surgeons
American Physiological Society
Society for Experimental Biology & Medicine
American Medical Association
American Board of Surgery, 1945-51; (Chairman, 1949-51)
Founder Member, Conference Committee on Graduate
Training in Surgery, 1951-57
Baltimore City Medical Society
Medical & Chirurgical Faculty of Maryland (Chairman
of Council 1952-55)
Consultant for China Medical Board in Korea,
1957, 1958, 1961
Consultant for Rockefeller Foundation, Nigeria, 1963
Faculty, Gilman School
Elder, Franklin Street Presbyterian Church

During World War II, represented the American Surgical Association on the National Research Council for three years, and was on one of the committees which advised the Surgeons General.

In 1948, moved his office from Johns Hopkins Hospital and went into private practice. Has continued to teach on part-time basis, and has maintained his interest in research. Has written extensively on tetanus; the hormones; and was the first to work out methods for removing the hypophysis in

monkeys and rabbits. Introduced intestinal antisepsis in preparation for surgery of the colon.

Has written over fifty articles for the medical literature, and a few for theological journals.

Dr. Warfield M. Firor Discusses

William S. Halsted

This is an interview held with Dr. Warfield M. Firor of Baltimore, Maryland. The interview is being held in Dr. Firor's office. The date is February 9, 1967. The interviewer is Dr. Peter D. Olch of the National Library of Medicine.

Dr. O. :

I believe we agreed that today we would spend primarily speaking about Dr. Halsted. Before we begin I would like to ask you when you first came to the Hopkins Institutions? I understand that you went to undergraduate school at Hopkins as well as to medical school.

Dr. F. :

Yes, I entered the undergraduate school in 1913, graduated four years later and entered medical school in the fall of 1917.

Dr. O. :

Your contact with Dr. Halsted was both as a medical student and later as a house officer.

Dr. F. :

Yes. My first contact with him was as a 3rd year student in his Friday clinic. In my 4th year I substituted for one

of the surgical internes and had the privilege of being on the operating team with Dr. Halsted. Then I had my surgical internship under him and was the last man to be kept on as an assistant resident before he died.

My first contact with the professor was in the Friday clinics which he conducted throughout his entire professorship. They were very formal. He would come into the amphitheatre accompanied by the resident. The resident would call two students down into the pit and introduce them to Dr. Halsted. The patient then would be brought in, and we would see Dr. Halsted question this patient about the particular subject that he was interested in and then examine the patient. This indeed was impressive, because of the gentleness, thoroughness, and precision with which he conducted this examination. Invariably he would then turn to the students and ask them to make their own examination. The patient would be taken from the amphitheatre and Dr. Halsted would then begin to question the two students about what they had seen and felt and continue the entire clinic by the Socratic method. And no time did he make an effort to lecture or address the entire student body. As a matter of fact, if a student didn't happen to be in the first two or three rows, he wouldn't hear what the professor said.

This, I think, largely reflected Dr. Halsted's idea that it was impossible to teach surgery didactically, that surgeons were trained, and his attempt to teach the students was simply to set an example, not to impart a vast amount of surgical knowledge.

These clinics were extremely thorough and one might say severe. Many students were afraid to be called down, because they were sure to be cross-examined by the professor. At no time was there any levity. Always before the clinic was over, Dr. Halsted would call attention to the stack of books that had been brought in before the clinic began. Each book would have the pertinent reference marked. Many of the clinics dealt with fundamental aspects of physiology and surgery. Occasionally there would be emphasis on the historical development of a subject, but this was certainly not the primary purpose of the clinic, and one left with the impression that he had seen a great gentleman, a very erudite scholar, and a very careful teacher.

Dr. O. :

A small point, Dr. Firor, but were any of these texts that were brought into the clinic in foreign languages? In other words, did he expect the students to be able to read French, German, etc.?

Dr. F. :

Quite right. Yes.

Dr. O. :

This certainly is a change from today. The medical student of today does not have the language proficiency.

Dr. F. :

When we entered medical school, one of the requirements was a reading knowledge of French and German.

Dr. O. :

Yes, which I gather was truly a requirement then and not a fiasco as it was in later years.

Dr. F. :

It was more of a requirement when I entered than it was twenty years later.

My next contact with Dr. Halsted was on the wards. About once a week he would make rounds with the students assigned to the surgical wards. There he showed the greatest gentleness in dealing with patients. Frequently he would dwell upon one point for the entire hour in order to emphasize it. At no time did I ever see him hurried. He followed what the poet described as an unperturbed pace.

My last contact with him while a student was when I substituted for one of the surgical internes and was privileged to scrub on the team. I remember one instance in which Dr. Halsted did a bilateral herniorrhaphy. It took 3 hours. Throughout that operation he demonstrated those points in technique for which he became famous: meticulous handling of all tissues, accurate dissection, complete hemostasis. What was most impressive was that he did not leave when the major part of the operation was finished and turn over the closure of the wound to the assistant. He himself closed the wound with the same care and thoroughness with which he had conducted the entire operation. Actually he remained to see that the dressings were put on precisely as he wanted them.

Dr. O. :

Was this characteristic of his attitude toward surgery throughout his career?

Dr. F. :

I can't vouch for what his attitude was in New York before coming to Baltimore. Certainly he became known for attention to detail, for the gentle handling of tissue, for complete hemostasis, for the use of fine silk, and above all for a total disregard of time.

Dr. O. :

I was thinking of the policy which so often is not followed today, that once the major portion of the procedure was completed, he would still remain and would do the closure of the peritoneum and skin and so on.

Dr. F. :

I am certain that this was absolutely characteristic in his later years.

Dr. O. :

That is interesting. One occasionally reads that he would occasionally say he was tired and ask his assistant to finish the procedure and stroll out of the operating room.

Dr. F. :

Certainly this was not characteristic of him. Two years before he died he had a major operation and recovered slowly. It is possible that what you refer to occurred then.

Dr. O. :

Was there anything unique about the operating room set-up Dr. Halsted required or desired, either in comparison to his colleagues of that time or in comparison with an operating room set up for a similar procedure such as herniorrhaphy today?

Dr. F. :

Well, there was much more attention given to aseptic technique. For instance when we scrubbed, we then soaked our forearms and hands in potassium permanganate and took that off with acetic acid. We then soaked again in a bichloride solution and put our gloves on in bichloride so that if an accident occurred and a needle punctured a glove, there would be a layer of antiseptic material. That "wet technique" as it was called was not used anywhere else as far as I know, but it exemplified his insistence on an approach to perfection in technique.

Dr. O. :

Was this around 1920?

Dr. F. :

This was up until the time Dr. Dean Lewis came. The wet technique was used until Dean Lewis came. As a matter of fact; after Dr. Lewis came, I insisted on it for about a year and finally was told I was the only one in the whole hospital for whom they had to get out all of this paraphernalia. They persuaded me to use the dry technique.

Dr. O. :

From that point on, it was simply a matter of scrubbing up

for a required period of time, drying your hands on a sterile towel, and putting on your dry sterile gloves.

Dr. F. :

Right. Dr. Halsted would take great concern in the preparation of the skin. Iodine and alcohol were used routinely.

Dr. O. :

Dr. Firor, would you tell me how you decided upon, and how you were accepted in the surgical program at Johns Hopkins?

Dr. F. :

I decided to go into surgery because the results with surgical patients were so extremely satisfactory, whereas in internal medicine there were only three or four specific remedies at that time. The boys who wanted an internship in surgery applied in December, early in December. The most desirable appointment however was the one in the Hunterian laboratory, because the chap who got this appointment automatically was kept on as assistant resident. Notice was given that these appointments would be made along with the internship appointments, but one member of the class announced that he already had been given assurance of the position before the rest of us had had a chance to apply. I called Dr. Halsted at his home, not knowing that this was a little

irregular, and he was quite disturbed to find that he had been misinformed. He had been told that there had been only one applicant. He asked me to come to his office the next day.

When I went to his office, the secretary said he was indisposed and wanted me to come to his home, which I did. The butler took me to his library and to my amazement, Dr. Halsted had looked up all the information the Dean's office had about me. He knew where I had graduated from college, the courses I had taken, my standing in the class, and above all the fact that I had had tuberculosis and was up at Saranac. After probably half an hour talking about the modern treatment of tuberculosis, he abruptly said he didn't think I should apply for an internship at Hopkins, because the work was too strenuous. He suggested I go to Union Memorial. However, the appointments were made strictly according to class standing, and I was entitled to an internship in surgery by virtue of my class standing, so I did not withdraw the application.

The next year the resident approached me and said I had been considered for an assistant residency, but Dr. Halsted remembered I had had tuberculosis and thought it would be foolish

to keep me on. I pointed out that I was the only interne who hadn't missed any time and for three weeks had done all the work of Dr. T_____ as well as myself. That seemed to persuade him that it was safe to let me stay on.

Dr. O. :

Would you say a few words about Dr. Halsted's relationship to his house staff and also the visiting staff, the attending men in surgery.

Dr. F. :

By and large he had very little contact with the house staff, except with the residents. In my internship year, on the first of January, he surprised us all by sending us an autographed reprint of his, describing the introduction of rubber gloves. The resident told me that it was the first time he had ever known the professor to do anything like this. He stopped one assistant resident by the statue one day and said, "Oh, Doctor, I'm so glad to see you. What are you doing now?" He said, "I'm in surgery." Dr. Halsted said, "Oh, on what service?" The reply was "On yours, Sir."

Dr. Halsted leaned heavily during the years that I knew him on Dr. Heuer and Dr. Reid. I presume also on Dr. Crowe.

I never remember seeing any of the visiting surgeons in his office or talking to him. He was quite aloof.

Dr. O.:

You had mentioned in an earlier discussion an incident involving an assistant resident, which illustrated how sharp a decision Dr. Halsted could make.

Dr. F.:

Yes. Dr. Dandy told me that Dr. G_____ was dropped from the service because of a remark he made in Dr. Halsted's presence concerning a private patient, who had complained about Dr. G_____ 's roughness in doing a dressing.

During his later years, Dr. Halsted was more interested in the research work going on in the Hunterian laboratory than in clinical cases. I remember one instance when he looked over the shoulder of a young man closing the abdominal incision of a dog and gently rebuked him by saying, "Oh, Doctor, you could do that so much more delicately." The young man after Dr. Halsted left said, "Gee, I hope he doesn't hold that against me." I think he did.

Dr. O.:

In 1919, toward the close of Dr. Halsted's active career in

surgery, Mr. Abraham Flexner was a patient of Dr. Halsted. In looking through some of Mr. Flexner's correspondence there are some rather interesting comments about Dr. Dandy. Dr. Dandy according to Flexner was doing a lot of the service work in 1919 and Dr. Halsted was not around very often. Were Dr. Heuer and Dr. Reid still around?

Dr. F.:

No, they were still there. Dr. Halsted thought very, very highly of Dr. Dandy's originality. While assistant resident, Dr. Dandy had worked out the mechanism of internal hydrocephalus. He told me that Dr. Halsted's comment was, "Oh, Dandy, it is such a tragedy that you did this so young. It is seldom given to a man to make more than one great contribution in his lifetime." Dr. Dandy always attended Dr. Halsted's clinics and rounds if he were free to do so.

Dr. O.:

It would seem that Dr. Dandy was one of the superior products of that system.

Dr. F.:

Unquestionably.

Dr. O.:

Would you agree with a statement I found in the Flexner papers, credited to Dr. Halsted, that Dr. Dandy was actually superior to Dr. Cushing?

Dr. F.:

I am sure that impression is correct. Dr. Halsted put great emphasis on originality and investigative work. Cushing developed a school, but contributed very little basically to neurosurgery, whereas Dandy worked out encephalography and many other contributions which we will talk about some other time.

When it came to writing scientific articles, I think the professor set a standard which has seldom been equaled. He took almost a year to prepare his thesis on The Operative Story of Goiter. Miss Stokes, his secretary, told me that he confirmed every one of the 375 references personally. He used to tell the young men, "Always write for the 10 per cent, not for the 90 per cent."

Dr. O.:

Dr. Firor, what surgical or medical societies did Dr. Halsted support and attend?

Dr. F.:

He told Dr. Reichert once that the only two meetings he cared to go to were those of the National Academy of Sciences, of which he was a member, and the American Surgical Association. I doubt if he belonged to the Southern (Surgical Association). I know he did not belong to the Society of Clinical Surgery. I think he had no interest in the A. M. A.

Dr. O.:

Was he a member of the American College of Surgeons?

Dr. F.:

He wasn't very active in that. Finney was the leading star in that, you see. He was President.

Dr. Halsted never had a group of visiting surgeons come for two or three day demonstrations, in great contrast to his successor.

Dr. O.:

He did frequently invite referring physicians to attend the operation, did he not?

Dr. F.:

Quite right. That is correct. I am sure he continued that

practice, but he didn't invite a group of fifteen or twenty surgeons from Wilkes Barre or some place like that to come.

Dr. O.:

Do you think this was because of a basic shyness or an austere feeling, not wanting to be bothered with the personal contact with these men?

Dr. F.:

I think it was because he felt that they would get very little out of it. It would be a waste of their time and his. He felt it took years to train a surgeon, and they got nothing from just mere observation.

Dr. O.:

Certainly this is the attitude toward teaching medical students and, if you will, the less talented resident as opposed to the talented resident. It undoubtedly carried over into his relationship with the general medical and surgical community.

Dr. F.:

He was absolutely committed to the pyramidal system of progression in the residency system. He could be very brutal in dropping a man after 4 or 5 years, if a more favorable

candidate was on the horizon. Toward the end he brought over Dr. Schlaepfer from Germany with the idea of making him resident. In fact he told me that he planned to have him the resident after Dr. Holman, but his death intervened and changed things.

Dr. O.:

In spite of his close association with the German and Austrian surgeons, he did not have many Europeans join his house staff other than Schlaepfer, did he?

Dr. F.:

He is the only one I know of.

I am certain that some of the people who have written biographical material about Dr. Halsted have exaggerated his idiosyncrasies and have given a picture which is almost a caricature. He may have sent his shirts to Paris to be laundered, but he certainly was not an eccentric individual. He had his small coterie of cronies that played whist at the Maryland Club. I know he went to Yale alumni banquets. I am sure he had cordial relationships with many referring doctors and also with Dr. Finney and other prominent surgeons in the country.

I remember clearly when Dr. Heuer came from Cincinnati to operate on Dr. Halsted in his final illness. At the time of Dr. Halsted's death, there was very little notice taken of it in the press. In fact the full stature of the man was not appreciated by more than a handful of people, but through the following decades, I have been impressed by how his reputation has grown. At a recent meeting of the American Surgical Association, six authors referred to some of his contributions and showed that his influence in American surgery lives on.

Dr. O.:

Do you believe this growing influence, starting some years after his death, was more the result of the teaching of some of his former residents or the gradual awareness that in his writings are many lessons that we should have learned in the intervening years since his death?

Dr. F.:

I think both factors were at work. Certainly some of his residents did a superb job in carrying out his ideas and propagating the residency system and training other men.

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Dr. Warfield M. Firor Discusses

Walter E. Dandy

This is an interview with Dr. Warfield M. Firor, held in Dr. Firor's office on February 28, 1967. The interviewer is Dr. Peter D. Olch of the National Library of Medicine. The topic for discussion today is Dr. Walter E. Dandy (1886-1946).

Dr. Firor:

I got to know Dr. Dandy extremely well because I was the second full time resident on the neurosurgical service at Johns Hopkins. Dr. Frederick Reichert was the first. Before that Dr. Dandy had one of the assistant residents on the surgical service who worked part time with him and part time with other surgeons.

Dr. Olch:

What were the dates of your tenure as resident with Dr. Dandy?

Dr. F.:

I began on July 5, 1923 and stopped on January 29, 1925. Shortly before I began as his resident, he had discovered ventriculography, or the injection of air into the

ventricles of the brain for the localization of brain tumors. This was indeed an epochal event, because up to that time only one third of brain tumors could be localized by a neurological examination or by the use of dyes and X rays. As soon as Dr. Dandy hit upon the idea of putting air in the ventricles and following the course of the air from the lateral ventricles through the ventricular system out into the subarachnoid space, the localization of brain tumors moved up to 90 or 95% accuracy.

I remember the third patient in whom air was injected. She was a patient on whom Dr. Cushing had done a subtemporal decompression and was unable to locate the tumor. With a sharp needle and syringe, Dr. Dandy aspirated from the lateral ventricle over 200 ml. of cerebrospinal fluid and replaced this with air. Following the X rays he attempted to aspirate as much of the air as possible, but a great deal had already passed through into the third ventricle and through the aqueduct and fourth ventricle. He told me to tap the lateral ventricle every two hours because he was afraid the air would be irritating and the patient would develop increased intracranial pressure. She did.

This was done. As a matter of fact, we had to continue to decompress the ventricle for almost four weeks before Dr. Dandy was able to remove the tumor in the third ventricle which had been beautifully visualized by the ventriculogram.

On one occasion with this patient he claimed that I had given her meningitis from carelessness and that I had killed her. Fortunately, she was still living, the spinal fluid remained sterile, and he forgot about the accusation.

Dr. O.:

I gather that by 1923 there was a division of neurosurgery.

Dr. F.:

It wasn't a strict division. It was still a subdivision of general surgery. However, Dr. Dandy had his own resident, and one interne would be assigned to that service every month.

Dr. O.:

Was he known as Professor of Neurosurgery?

Dr. F.:

Not at that time.

Dr. O.:

Did he do any general surgery at this time?

Dr. F.:

Yes. One summer during the interregnum between Dr. Halsted's death and the appointment of Dr. Dean Lewis, most of the visiting men were out of the city and some of the internists insisted on Dr. Dandy's doing a few abdominal cases, which he did with exquisite skill. Actually, it was the best abdominal surgery that I had seen up to that time.

Dr. O.:

Certainly in his early days he was still doing a lot of general surgery.

Dr. F.:

He told me that he had planned to go into neurosurgery when he entered medical school. He entered with advanced standing, and while working under Dr. Mall in neuroanatomy, he described what was then the earliest human embryo which is known as the "Dandy embryo". He was chosen by Dr. Halsted to work in the Hunterian laboratory. His residency following graduation covered 8 years. The last two years of which

he was the senior resident. During his assistant residency, he worked out the mechanism of internal hydrocephalus and Dr. Halsted remarked to Dr. Edwards A. Park that it was a shame that Dandy had made such an excellent contribution so early in life, because it was seldom given to a man to make more than one great discovery.

Dr. Dandy did a fair amount of neurosurgery while resident, because Dr. Heuer who took Cushing's place turned over the ward cases to him. Once Dr. Dandy told me that he was so disappointed that Cushing didn't take him up to Peter Bent Brigham in 1912, that he figured his whole career had been ruined. Actually, it turned out to be the best thing that ever happened to him.

Dr. O.:

Is it your impression that the conflict between Dr. Cushing and Dr. Dandy originated during the period they were working together in the Hunterian, or the following year on the clinical service when Dandy was Cushing's assistant?

Dr. F.:

No, I think the antagonism began when Cushing refused to take Dandy to Boston and took Dr. Bagley instead. It was

accentuated by the temperament of the two men and also by the fact that Dandy was extremely original and Cushing was not. There was bound to be a certain jealousy. The biggest friction developed over the publication of the treatment of acoustic nerve tumors. Cushing had brought out a book in which I believe he said it was impossible to remove all of the tumor and the capsule. Whereas Dandy shortly thereafter published a paper saying that he had successfully done this. I remember very clearly Cushing coming down to Baltimore and coming up to the operating room and saying, "Where is this fellow Dandy? I want to talk to him about this acoustic nerve paper." The heated exchange that took place thereafter was exceedingly interesting to a neophyte.

Actually, the misunderstanding and feeling between these two men was never resolved. I remember Dr. Dandy told me that when the American Neurosurgical Association was organized and Dr. Sachs of St. Louis asked him to join, he said he didn't care to associate with such people. Nevertheless, when the second meeting of the Association was held, he sent me up to Boston to listen to the papers and to watch Cushing operate. This was partly because I was overworked and needed a change, and I think also, because

he wanted to know what was really going on. At that time I saw suction used for the first time by Dr. Cushing and his resident Dr. Emile Holman. When I came back and reported to Dr. Dandy, he brushed the use of suction aside as "not necessary", but later came to use it regularly.

Dr. O.:

I didn't realize that Dr. Holman of Hopkins went to Peter Bent Brigham with Cushing.

Dr. F.:

That's right. He was up there as resident after he finished as resident at Johns Hopkins.

Dr. O.:

I gather there was another difference between Dr. Cushing and Dr. Dandy. You might say Dr. Cushing was a man of letters, a prolific writer and a fairly good writer as opposed to Dr. Dandy, who may have written a fair amount, but left something to be desired as far as his style, spelling, etc. In other words he was not the polished writer that Dr. Cushing was.

Dr. F.:

That's right. Dr. Cushing founded a school of neurosurgery and was indeed a very erudite and polished scholar. Dr. Dandy would write rapidly in long hand and seldom correct the manuscript. In his early days, it used to concern Dr. Halsted a great deal. In fact he once said that he thought he would employ a student of English to rewrite Dandy's papers for him. Nevertheless, Dr. Halsted, before he died, said that Dandy was the greatest resident that he had ever trained.

Dr. O.:

Was Dr. Dandy ever on full-time at Hopkins?

Dr. F.:

Yes, the year after his residency he was on full-time. He was sick a good bit of that year as a matter of fact and then went out into practice, but always had an office at the hospital. His office across town on St. Paul Street was sort of an empty gesture.

Dr. O.:

So actually he was more geographic full-time.

Dr. F.:

Quite right. He always was what we would now call geographic full-time.

I was asked to write Dr. Dandy's obituary for one of the medical journals and gave some thought as to the factors that contributed to his genius. Surely one of them was his power of observation. I remember an instance when he was called over to the medical wards to see a critically ill patient who was thought might have a brain tumor.

Dr. Dandy simply stood at the foot of the bed, watched the woman for a minute or two and then walked away and said, "She is dying of pneumonia". She died within a few hours and at autopsy the diagnosis was confirmed. When asked how he made that diagnosis, he said, "I simply watched her breathing."

Another factor that contributed to his greatness was the intensity of his concentration. This is possibly a ludicrous incident, but it illustrates aptly what I just said.

Dr. Dandy was married in the home of his bride. Only six or seven of his medical friends were invited. The ceremony took place in the parlor with the minister standing in front of the mantelpiece. Dr. Dandy and his bride

were facing the mirror back of the minister. Half way through the ceremony in which Dr. Dandy was repeating the vows after the minister, there was a pause. The minister repeated this particular vow, "I thee with all my worldly goods endow" and there was still no response. He nudged Dr. Dandy, who came to and after the sentence was repeated a third time, Dr. Dandy said it. When the ceremony was over I went up to him and said, "What in the world were you looking at during the ceremony when you failed to say what you were supposed to say?" He said, "You know Firor, there was a fly walking across that mirror and I was intent to see if it would get to the end before the service ended." It really happened. "I thee with all my worldly goods endow" ----- complete silence!

I would think that another factor that was extremely characteristic of Walter Dandy was that he thought and acted in absolute terms. Everything was either black or white. There were no intermediate shades. I can illustrate this by his having given ward rounds every week, every Saturday morning for six weeks to the fourth year students, and after going through the differential diagnosis and the examination of the patient, he would wind up by saying, "Now this patient has such and such a tumor at precisely this

place. If you come upstairs in another hour, I will have the brain exposed and demonstrate this to you." Every time for six successive weeks he was wrong. But that made no difference, for it was really superb teaching.

Also at the Southern Surgical once, he gave a paper on discs and said with the same absolute, positive, unwavering certainty, "Discs always occur at the fourth interspace. You need no X ray or contrast medium." The next year he got up and said, "Only 50% of the discs occur at the fourth interspace. You cannot get along without contrast media." When confronted with the inconsistency, he said, "Yes, I said that last year, because that's what I thought then."

Dr. O.:

Was his association with others in the field of neurosurgery a fairly friendly one or was he a rough enough character that he rubbed a few people the wrong way?

Dr. F.:

I would say it was anything but friendly. He had great admiration for Sir Victor Horsley, but I never heard him speak in friendly terms about any American neurosurgeon. He never joined the Society of Neurological Surgeons or The Harvey Cushing Society.

Dr. O.:

Who were his close associates?

Dr. F.:

He had many very warm friends. During his eight years in the hospital, the House Officers had a baseball team. He was the Captain and for the rest of his life, his intimates always called him "Captain". The team used to practice on the site where the Phipps Institute now stands. On Sunday afternoons they would take on some other team in Baltimore and go out to Druid Hill Park for the game. He was always very friendly with the members of the house staff who stayed on. Eddie Broyles, Alan Woods; he was devoted to Dr. Reichert. There was a group of people he would play golf with. He and Dean Lewis were extremely intimate. Speaking of playing golf, as long as I knew Dr. Dandy, he loved sports. He played a very excellent game of tennis and again and again would slip out after a brain operation and play with Al Blalock. He played golf up until the week before he died. He loved the game of bridge and would go down to either the Baltimore Club or the Maryland Club to play with some of his friends.

I didn't completely finish my analysis of his salient characteristics. I think if I had to pick out one exceptional trait which accounted for this man's greatness and for his discoveries, it would be that he had the faculty of incessantly asking himself questions. I've seen him stop in the middle of an operation and think for a minute and say, "Firor, why can't we do it this way?" In fact his discovery of ventriculography came from asking the technician who was developing some X ray plates, what that black round spot meant on a particular plate. Actually, he bawled out Rubin and said, "Rubin! You've spoiled that plate!" The Polish technician said, "No sir, Dr. Dandy, that is an air bubble in the colon." Dandy asked, "Does it make a black mark like that? I can put air in the ventricle!" Suddenly, asking himself what the black area was, he had it.

I remember also, when I was his resident, the first year he was not married and he would invariably come back to the hospital after dinner to go over the films that had been taken that day. He would see things that nobody else saw. He would make associations that nobody else thought of. I got terribly discouraged because I was as inarticulate as a bump on a log, until finally it occurred to me

that the key to his success was his incessant inquisitiveness. But, he was not asking other people questions; he was simply bombarding his mind with questions all of the time. I was so impressed with this that when Dean Lewis asked me to stay on full-time and teach and put myself down for any courses that I wanted, I said that I would put down surgical pathological conference simply to teach the students to ask themselves questions, not merely to make the right diagnosis or learn any pathology. For some twenty years I gave that course.

Possibly the last characteristic that I would want to emphasize, was his ability to cut right into the very core or center of a problem. He had no time for superficiality. He had the ability to see the essential point and go right to it. He had a directness of approach. Of course, he was technically the best surgeon I have ever seen, and the boldest. I remember one Labor Day when one of the House Officers brought his father in semicomatose, Dr. Dandy was up in Frederick with Fred Reichert. I called him and asked him to come back, that we had to operate on this man. That evening we explored the cranium and found an inoperable glioma involving the temporal and frontal lobes. The House Officer subsequently came to Dr. Dandy and asked if

it would be possible to remove the entire hemisphere and Dr. Dandy said, "Yes, if you want it done." So he and I removed, I presume for the first time in history, the entire hemisphere of a man's brain. The dead space filled up with fluid and later became infected with *Micrococcus tetragenes* which we cleared up with irrigations.

The patient had a total change of personality. His inhibitions were all gone. He would use foul language in the presence of his wife and minister. He lived for about eight months.

Dandy had absolute courage. I remember he once walked into my office and said, "Didn't you and I once pinch off both internal carotids?" I said, "No sir." "We tied off one once, but that was all." He said, "You know I thought we did and I tried it today and that patient died. I never mind losing a patient, if I learn something from the case."

Dr. O.:

Would it be safe to say that he was bold to the point of being foolhardy, or would that statement be unjustified?

Dr. F.:

I don't think he was foolhardy, but he was certainly courageous and bold. As I said earlier, he was exceedingly dexterous.

Dr. O.:

I realize that Dr. Dandy was a forceful individual. He undoubtedly rubbed some people the wrong way. Is this the basic reason so many people have hesitated to write his biography?

Dr. F.:

I was approached by MacMillan, I believe, I forget the firm. I turned it down, because to do it well would have taken a full year and I couldn't afford that much time.

Many of the boys who were his residents didn't last out their full time because of conflicts with Dr. Dandy. At least five times during my residency he accused me of having killed a patient, but fortunately none of them died at that moment. The very next week he would tell my father that he didn't know how he could get along without me, that I was his right hand.

Dr. Dandy had a very generous side to him that many people don't know anything about. He went to one resident who was poor and who had a year before he was to take up his Professorship at a southern medical school and said to him, "This is a year when you could have a lot of fun and I am going to give you a Cadillac car so that you can drive around and have a good time, because once you get down to Duke, you'll have to work so hard that you won't have any opportunity for play."

When I had mumps meningitis during my residency with him, he sent me out to Colorado Springs for a month to recuperate with all expenses paid. When I came back, I had some money left over and returned it to him and he said, "No, keep it."

He wasn't very practical. I was lying on the ward with mumps, sick as all get out, and he sent me a basket of citrus fruit!

A colorful person who sees things in black and white terms obviously lends himself to any number of apocryphal stories, which I presume it is not necessary to go into. The time he went into the wrong side of the head for instance.

As resident it was one of my duties to arrange for Dr. Dandy's fourth year clinics and ward rounds. He was an excellent teacher because first he thought clearly, he could organize the material, and was so positive that the students invariably carried away from the session a very definite impression.

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COMMENTS ABOUT THE SURGICAL CHIEFS AT THE JOHNS HOPKINS HOSPITAL

BETWEEN 1918 AND 1938.

Warfield M. Firor

COMMENTS ABOUT THE SURGICAL CHIEFS AT THE JOHNS HOPKINS HOSPITAL
BETWEEN 1918 AND 1938.

During the last years of Dr. Halsted's tenure he became increasingly inactive. He relied upon Dr. Heuer and Dr. Reid for nearly all of the administration and teaching. Unfortunately they both left for Cincinnati shortly before Dr. Halsted's death on September 8, 1922. During the ensuing interregnum of three years Dr. J.M.T. Finney was nominally in charge, but his large practice and many other commitments made it imperative that the actual running of the department be done by his lieutenants, Dr. Walter Hughson and Dr. Robert T. Miller, Jr. Dr. Hughson had just graduated in 1918, and had had some training at the Union Protestant Infirmary. His experience was less than that of a senior assistant resident at Johns Hopkins. Dr. Miller was a man of integrity who had given up the Chair of Surgery in Pittsburgh for an easier life in Baltimore. He had independent means, and did not relish either administration or teaching. He was handicapped by having responsibility without authority. His nickname was "fighting Bob", and it was not long before Drs. Holman, Reichert and Blalock were deleted from his speaking list.

The following factors increased the general deterioration of esprit de corps: bitter contention among the house staff; new appointments were based on favoritism rather than ability; the most experienced house surgeons, Holman and Schlaepfer, left. In retrospect one realizes that the giant of the situation was Dr. Dandy. His incessantly active mind; his masterful operating; and the rigid discipline he imposed upon his staff exerted a solid influence, and maintained Dr. Halsted's standard of excellence. The stage was set for the arrival of a vigorous Chief.

A word or two about Dr. Lewis might be of interest. He was raised in Kewanee, Ill. Because of his athletic prowess he was known as "the Kewanee Kid". He went to P. and S. in New York to study medicine, but the bright lights of Broadway proved to be too great a distraction, and he was transferred to Rush Medical School after one year. Here he made a splendid record, and became assistant to the professor, Dr. Arthur Dean Bevan, for whom he translated a German textbook, for which he received no acknowledgement. Dr. Lewis married an exceptionally intelligent person who devoted her whole life to his interests. They had no children.

By 1912, at the age of 38, he was taken into the American Surgical Association. In World War I he was in France, and developed a reputation for peripheral nerve surgery. His vigor, personality, memory, exceptional clinical judgment, and knowledge of the literature, made him an outstanding figure. Together with his associate, Dr. Vernon David, he had a huge private practice and was reluctant to leave Chicago for Baltimore. It took the strong persuasion of Dr. Finney to change his mind. His acceptance of the professorship here was contingent upon the following: a new floor on the Hunterian building; increased salary; more public ward beds; and the erection of the Halsted building. He came to Baltimore in August, 1925. Mrs. Lewis was a patient in the hospital from February, 1926, until her death in July. Later Dr. Lewis married a woman half his age; they had three children. Suddenly in September, 1938, he developed signs of cerebral softening, and was retired by the trustees in February, 1939. He died in October, 1941.

His basic philosophy was one of direct approach and incessant activity. It is impossible for me to picture him in a contemplative mood. He was a man of quick decisions and few words, which contributed to his very great charm. He was gregarious, and found it impossible to turn down any invitation to go

places, meet people, see games, or give a talk. His activities were so numerous that he often found himself in a jam. One year he was too busy to mark any examination papers, so he gave every student a B. His excuse was "There aren't any first-rate surgeons in that class". When he forgot to appoint a student to whom he had previously promised an internship, he went at once to the Director and said "I can't run this service with only seven internes; I need another man". His speech was often brusque, but this was a protective shield. Beneath the gruff exterior was a soft heart. He found it hard to face unpleasant situations, and dealt with them by procrastination in the hope that nature and le bon Dieu would intervene. He avoided patients who were found to have incurable disease. He postponed for a full year telling two assistants that they were to be dropped, and then asked me to ease it over to them.

The difference between Dr. Halsted and Dr. Lewis was apparent in every area of activity. The new professor was the complete opposite of his predecessor. This was immediately manifest by the frequency of his trips to the wards. Dr. Halsted was only seen on the wards on rare occasions when he gave student rounds, or when the resident took him to see an interesting patient. Dr. Lewis would go back and forth two or three times a day to see sick patients. It was his routine to pass through the Accident Room and the Out-Patient Department daily, and to stick his head in the operating rooms frequently. He was familiar with all that was going on, not only in general surgery but also in the specialties. His supervision was astounding to those of us in the house. It was something quite new. Dr. Halsted on occasion did not recognize his own assistant residents. Dr. Lewis not only knew every house officer; we soon found out that he even called students by their names. His insistent searching questions, his direct confrontation of people, his piercing look caused many students and residents to be afraid of him.

Our second shock came in the operating room. Instead of Dr. Halsted's painstaking and deliberate execution of every detail in every operation, along with total disregard of time, we saw Dr. Lewis breeze through gastroenterostomy in 25 minutes. Kocher clamps were used as hemostats. Large bites of tissue were included in every suture. Chromic catgut replaced fine silk. Every principle of Halstedian technique was violated. Nevertheless it must be emphasized that Dr. Lewis's technique was on a par with the best that was current in Chicago or Rochester in 1925. Halsted's influence had not spread very far (see reprint on Residency Training). There was another difference. Dr. Halsted was intrepid; he would do the most formidable procedure with supreme sang froid. In contrast there were operations, such as splenectomies, and thyroidectomies for Graves disease, which Dr. Lewis never tackled. He never did a complete Miles operation, but would divide the sigmoid, drop the distal end into the pelvis and bring out the proximal end. A few days later I would be asked to do the second stage!

Probably in no area was the contrast between the two professors more acute than in their teaching of medical students. The Friday clinics of Dr. Halsted were dull; they were conducted with great formality. The resident would call two students down into the pit and introduce them to the professor. A patient would be brought in, and the resident would recite the history. Thereafter Dr. Halsted would discuss with the two students in such a quiet gentlemanly manner that only those in the first two rows could hear him. The problem and the pertinent literature would be covered with great erudition, but the class on the whole learned precisely nothing. Dr. Lewis's clinics were packed with action. Six or eight patients would be shown. The essential problem or lesion would be rapidly brought into focus, and then the fireworks. No student was safe. The professor would ask a question, and point to student after student until the correct answer was forthcoming. There was humor, verve and excitement

interspersed with a large amount of practical surgery. He never failed to bring in anatomy, and the historical background. Invariably students would be told to look up a particular article; to their consternation they would be asked to report sometimes a year later, even during their internship. His memory for names, faces and facts was phenomenal. After two or three years it became apparent that he often asked the same questions. One enterprising student took down all that was said for two years and edited his notes as "Lewis's Didactics". This sold for \$3.50. A soft-spoken conversational style characterised Dr. Halsted's contact with students, but with Dr. Lewis it was blood and thunder.

It is impossible to compare the research of these two men because Dr. Lewis never did any. He told me that while he was in Chicago he employed two young doctors to work in the laboratory for him. As far as I know, the closest he ever came to initiating animal experiments was when he found out that I could hypophysectomize dogs. He suggested we study the regeneration of the anterior lobe. When I demonstrated to him the inability to know how much of the gland remained after partial ablation, he gave up the idea. He was quick to seize upon new ideas. When he saw Reichert's beautiful demonstration of collaterals in Buerger's disease, he forthwith began to ligate the superficial femoral artery of patients with this disease. The results were so unfortunate that he soon abandoned the idea. The papers he published with Geshickter on hormones were misleading. The "breast tumors" which they claimed to have produced in monkeys were microscopic collections of cells. Once Dr. Lewis told me that we were down for a paper at the American Surgical Association meeting on collateral circulation. He asked me to get some data and lantern slides. I was leaving on vacation and turned this chore over to Stinson and Shackelford who prepared the necessary material. Their findings and illustrations were at complete variance with the paper he wrote. When this was pointed out to him, he read the paper before showing the slides and then refused to turn it in for publication in the Transactions.

It is unnecessary to comment on Dr. Halsted's commitment to experimental studies of the highest quality. His collected papers testify to this. In the years of his failing health he would visit the laboratory, but not the hospital.

Dr. Halsted's role in the establishment of the residency training system is well known. His great purpose was to develop a few surgeons in a thorough and comprehensive manner. He chose his residents after a long probation period. The prime requisite seemed to be proved capacity for investigation. He was uncompromising and at times brutal. At one time he dropped a potential resident because of the latter's crude and ungrammatical criticism of a patient - ("the old biddy done me dirt, Professor"). After six years of service Dr. Mont Reid would have been dropped but for the fact that Dr. Ernest Gray offered to step aside for six months. Sad to relate, Dr. Gray died three months later during the influenza pandemic.

On coming to Baltimore, Dr. Lewis announced that he would permit Drs. Reichert, Firor and Hart to finish their training program, after which he would shorten the residency. He later came to see the value of the long apprenticeship, and actually lengthened the period. Unfortunately his appointments were often on the basis of friendship instead of merit. Unfortunately, too, he gave little or no instruction to the resident. Had it not been that rotation through Dr. Dandy's service was required, the training program would have suffered.

During the last decade of Dr. Halsted's life he was fortunate to have Dr. George Heuer as the full-time associate professor. Dr. Heuer embodied the professor's thoroughness, skill, clarity of thought, and in addition was an excellent teacher. Dr. Lewis had only two full-time associate professors. Dr. Ferdinand Lee was shunted out of the residency to make room for a favorite son, and was "promoted" to the Hunterian laboratory. I was the other full-time appointee. Dr. Lewis said "write your own ticket; do what you wish in the laboratory; and

put yourself down for whatever courses you care to teach." He read a paper on the subject of training young surgeons, and endorsed this laissez-faire policy. However, almost every week he would look in at the classes or enquire how many students were present. He enjoyed long vacations, and arranged with the Advisory Board for me to take mine at Jekyll Island every winter. This meant that I ran the service every summer, beginning the first year I was resident.

In their publications a vast difference between the two men can again be recorded. In 1920 Dr. Halsted published "The Operative Story of Goitre"; he had taken almost two years to prepare this classic. Miss Reese, his secretary, told me that he had perused every one of the 375 references, and personally checked the bibliography of the article. His collected reprints reveal not only thoroughness, but exquisite care in the choice of words, and in places a style that is really great prose. An adequate contrast can be drawn by the following incident: one Saturday afternoon I dropped into Dr. Lewis's office and found that he was writing three articles. "How do you do this?" I asked. "Why, by writing a little on one until you get tired, and then changing to another". He finished all three that afternoon. Needless to add, his desk was piled high with books and journals which were serving as source material. His publications must have exceeded 200. He was so busy that he simply did not have time to be thorough. He entered a contract with the Prior Company to edit "Lewis's System of Surgery". A month before publication he discovered that the following subjects had been omitted: Wounds; Tetanus; Gas Gangrene. He asked me to cover these chapters within the month. Again he asked me to write thirty printed pages on Pre and Post-Operative Care, as he was leaving for Europe the next day and had promised them by September 1. When this was finished I discovered that it should have been a chapter entitled "Feeding the Surgical Patient"!

Another area needs comment, and this might be dubbed "Public Relations". Dr. Halsted attended only two meetings a year, the American Surgical Association and the National Academy of Science. He seldom, if ever, entertained visiting groups. He seemed a cold aristocrat, almost anti-social. Dr. Lewis attended everything - surgical meetings, opera, athletic contests, and crab feasts. He knew more doctors than any man in the country, so it was not surprising that he was elected president of the American Medical Association. Although not accepted by the full-time faculty, he was the idol of the part-time staff. He was the first professor to make them feel that they were an integral part of the department. He welcomed visiting surgeons, and was responsible for breaking down the isolation of the surgical department.

In summary, Dr. Halsted was a recluse, a scholar whose standards of excellence were manifest in every phase of his work, as well as in his way of living. His professional life was committed to the advancement of surgery. He founded the only school of surgery in this country. As so often happens, recognition of his greatness did not come until years after his death.

Dr. Lewis was colorful. His vitality, exceptional memory, clinical judgment, and charm, carried him a long way. Unfortunately he left no durable imprint on surgery.