

# REMINISCENCES

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BEFORE I had gotten very far with the review of the research activities of the department, which was to be my main contribution to this meeting, I began to realize that it was not going to be easy to confine myself to such a narrow field and still tell a complete story. Among the memories that came flooding back as I sought to determine the reasons behind some of our efforts, were many that could scarcely be called research yet they had been equally important in the development of the department. Some of these were teaching problems, some clinical; some were trials to be borne and some were moments of triumph. Yet, looking back, all of these were the ingredients of the whole and could not be eliminated without robbing it of much of its savor and meaning. It was accordingly suggested that this evening's session be included in order that some of these less intangible items might be reviewed and it was our hope that many of you might remember certain events during the course of your own training and share them with us.

During the early years the department suffered under some very trying difficulties some of which were of a physical nature and some of which were less tangible. At first we were quartered with the undergraduate departments of Orthodontia and Children's Dentistry, where by adroit scheduling only, we were able to keep the three ventures from becoming entangled. The clinic was equipped with two rows of four chairs and tables each and these left little room to move around. The space behind this was divided into an inside waiting room and a long narrow laboratory. All laboratory benches and the Angle Wuerpel tables had been designed by Dr. Sippy, who was in charge of undergraduate orthodontic instruction and who was well over six feet tall. He liked to work standing up and without bending over so he designed his furniture accordingly. The rest of us had to climb up on draftsmen's stools to work at the laboratory benches. In the clinic we had to be careful not to bump our heads against the sides of the tables.

In back of the waiting room and laboratory were two other small rooms. One was dignified by the label "Department Office". It barely held a roll-top desk and this served for all three departments. The other room originally designed as a rest room for worn out mothers whose children were having their teeth filled, was taken over by us when not otherwise occupied, as a seminar room. It held two white-enamelled-top kitchen tables which had to be placed end to end and even then left only sitting room at the sides. If anyone wished to leave during a session the whole group had to cooperate. The entire group of rooms I have described were separated from each other by homemade wood and florentine glass partitions that extended up only seven or eight feet, providing all the privacy of a gold fish bowl. Needless to say there were no secrets in the department in those days.

For most of our seminars we had to seek other quarters. Sometimes, if no lecture was being given, we would repair to a small amphitheatre close by and if this was not available we attempted to take possession of the waiting room in the examination department. We became one of the most popular groups in the institution through our usurpations.

Finally came the day when the Medical School moved out and we were told we could have quarters of our own—their old dissecting rooms! Words could scarcely describe our elation or our feelings when we first viewed this magnificent abode. It was up on three and a half and completely segregated. The florentine glass windows had all been opaqued with black paint and the walls, which were of painted brick, resembled something with eczema. The floors—ah those wooden floors, they oozed the grease drippings of years of dissecting. The odor reminded one of nothing so much as fragrant roses! But we had lots of room in which to expand.

The Physical Plant Department did yeoman's duty that summer. They cleaned and painted the walls, placed partitions where we wanted them and treated the floors with lye so strong that the wood turned almost white.

It was quite a different aspect that greeted us when we returned after the August vacation although it was several years before it was impossible to detect the roses.

Our new space ran the full depth of the building and was about twenty-four feet wide. It was divided into a front half and a back half by a hallway. The partitioning of the front half gave us a clinic with six large windows, an inside waiting room, a department office with enough room for two desks and a bench and a room about 10 x 12 feet for the cephalometer when it arrived.

The back half, beyond the hallway, was equipped as a combination laboratory and seminar room. There were three large windows on one side and on the other wall we built a beaver-board dark room. The rear of the room was partitioned off and was used as an animal room. Beyond this was a door leading to an outside fire escape. But there was one more detail that should be mentioned.

I need not tell you that it was a very old building, how old I would not venture to guess. All supporting beams were of wood. The ceiling of the department was supported by 8 x 8's that ran the full twenty four feet from wall to wall. Every one of them was cracked in the middle and had a four inch sag. The engineering department had placed heavy iron plates, four feet long on the under surfaces and lag-screwed them to keep them from separating further. It was rather like working under the Sword of Damocles until one became accustomed to it. But newcomers to the department, whether students, patients or visitors, had a hard time keeping their eyes down to the accustomed level and all seemed to breathe easier when they got out into the hall.

Into this magnificent space we moved three new chairs and eventually six new Angle-Wuerpel tables (all of which are still in use in our clinic today.) The Operative Department turned over its three oldest chairs to complete our six places. The equipment was rounded out by the installation of a work bench at each unit. These were made in our own carpenter shop and left little to be desired. But there were still two flies in our ointment,

one was the window panes, from which the solvents had not completely removed the black paint and the other was the three old chairs. The students decided they had to do something about both.

The chairs had wooden backs and seats which had been varnished so often that they had taken on that indescribable gummy tinge and the iron work had been similarly abused with black enamel. The boys took one of these monstrosities at a time and finished it down by hand to bare wood and metal and then built it up again. When they emerged from their beauty treatments the Operative Department wanted to reclaim them. The paint on the window glass was chipped away in a similar patient manner and now the department became the chief show place of the College of Dentistry.

I said that we had other difficulties of a less tangible nature. When the course was opened certain principles were laid down and these principles became the subject of considerable propaganda that was used against us. The first of these was that we would accept only full time students for training. Every other school was offering part time courses so that the students could "earn and learn" simultaneously. We restricted cases to a number of six to a man and this also caused much raucous laughter. Students from other schools boasted that they were treating forty to fifty cases within a few weeks after entrance and asked how one could gain experience on six. Finally, we taught only one appliance and for this we were criticized from one end of the country to the other as Angle appliance salesmen and narrow minded bigots. While other schools were attracting classes of ten to twenty men, we were forced to be satisfied with two some years and our capacity of six was attained only two or three times. Only the enthusiasm of our own students and their insistence that we stick to our principles kept us going.

Under these circumstances it was but natural that we should take advantage of every opportunity to attract favorable publicity and we accepted practically every invitation for talks, clinics and exhibits. In 1933, Dr. Schour and I prepared a joint exhibit for the annual meeting of the American Medical Association which took an Award of Merit First Class. In 1935 the department sent an exhibit to the meeting of the American Association of Orthodontists in New York. This was by all odds our most ambitious effort. It consisted of eighteen panels, each one carrying the complete records of one case, viz, intra oral x-rays, photographs and models, before and after treatment. The x-rays were transilluminated, each panel carrying its own shadow box, and the models were mounted on individual aluminum brackets, the handiwork of Dr. Downs who also designed the shipping case to carry them. The case history, plan and duration of treatment and all other pertinent data was hand lettered on a large white cardboard panel behind glass. In addition to these small panels there were five large ones, one showing a complete set of records and the other four showing various departmental projects.

Months went into the preparation and about the only comment heard was that of a teacher of orthodontia who gleefully exclaimed, "look, they *do* get root resorption." To which one of his own students innocently replied, "Why don't we take x-rays, maybe we're getting some too." The fact remains that this was the first time that a department of orthodontia had ever shown *finished* cases.

During this meeting I had a very illuminating experience which verifies some of the things Dr. Wright told you yesterday morning. A former classmate of mine approached me and asked if I would give him a personally conducted tour through the exhibit at some time when the society was in general session and we could be alone. I readily agreed because I had always liked this man and in addition I wanted to brag a bit.

We spent probably two hours in front of the panels and each one was analyzed and the steps in the treatment of each case were carefully reviewed. He occasionally asked a question but was otherwise silent. As we finished he asked, "You do this for every case, that is, you have a *plan* of treatment?" I countered with, "Why how else could it be done?" He grinned sheepishly and replied, "The way I do it,—I get a pair of appliances on, get the teeth all loose and then hope they'll settle into normal occlusion. I didn't know there was any other way."

The following year this same exhibit minus the large panels was sent to Vienna for the IX International Dental Congress. I told you that Dr. Downs had designed a very clever bracket to hold each set of models. These brackets were even equipped with a mirror in back so that one could view the occlusion from the lingual. The brackets were bolted into a specially built case that was hinged in two halves and only three screws had to be loosened to open it. We printed careful directions on the face of the box for customs officers and thought we had taken everything into account. But we had not figured on the perversity or orneryness of German customs men. When we received the crates in Vienna they looked as though the voyage had been a rough one. In spite of all our efforts to make inspection easy, the back had been pried off the model case and the front teeth carefully knocked off of many of "before treatment" models. We complained to the American Consul but things were growing tense in Europe and he made light of a little thing like a few models of teeth.

The Viennese, on the other hand, were terribly chagrined. They straightway repaired to a print shop and when the exhibit went up a neat little card was placed under each damaged model. It bore the words "Beschädigt beim Transport".

A few years later we exhibited again for the American Association of Orthodontists at the Edgewater Beach Hotel. This show consisted of five large panels, one showing normal and abnormal mandibular movements, one showing the influence of the tongue and the labial and buccal musculature, one showing a complete file of records and how they were used, one showing abnormal muscular conditions, and one showing the effects of disturbed contact points.

Our efforts were not confined to dental meetings, however, and occasionally Dr. Schour's department joined with ours in collaboration. Another exhibit was sent to the Five States Medical Meeting at Detroit and we planned to divide our time there. But at the last moment Mrs. Schour was involved in an automobile accident and could not go so I had to put up and take down the exhibit myself. Henry Sturman and his good wife Lib, who were living at Detroit, came over to help me dismantle things. Henry at that time at least, didn't know one end of a screw driver from the other but Lib was as good as any workman I have seen. She shoved crates around, packed and hammered like a Trojan and we finally were finished—but I had missed my train.

On two occasions exhibits from the department have been prepared for the American Association of Anatomists, two others for the American Academy of Pediatrics, one for the American Association of Physical Anthropologists. Needless to say, we have exhibited before the Chicago and other dental societies.

Looking back on those days it seems that Dr. Schour and I spent most of our time designing and building exhibits. Indeed, it is doubtful that many people around the school knew we were professors—most of them thought we were carpenters from the Physical Plant Department. And of course we always needed help and it was always the graduate students that were pressed into duty. Some were clever and some were not but one in particular we shall never forget. This was Dr. John Spence. "Jawn" was never satisfied with the ideas *we* had and would come up invariably with counter-proposals all of which involved infinitely more work. But since only he could do the work we had to let him go ahead and things were always ready on time. Some of the things he created would make Walt Disney green with envy. He always had to get an electric motor or clock works into the show so that there would be movement as well as lights and color. He had teeth that pivoted, and dog's jaws that snapped and after Steadman had worked out the formula for the gradients of the rat incisor he insisted on building a working model of it. This turned out so beautifully that Dr. Schour carted it all the way to Vienna to show Erdheim. When it was plugged in the incisor rotated and erupted and each incremental line was laid down just so. When Erdheim was shown this masterpiece that great endocrinologist clapped his hands and exclaimed, "Ah—Mickey Mouse!"

In the early days before the thesis was required, each student had to do an individual project in each of his minor subjects. The earliest classes worked on problems of comparative anatomy—mainly dissections, but rivalries began to appear and the projects became more and more ambitious. One of these was undertaken by Dr. Goldstein, who developed a technique of reproducing whole skulls and coloring them. Then on these skulls he would fashion the various groups of muscles of the head and neck. These models are still being used for teaching purposes in the Department of Oral Anatomy.

While Dr. Furstman was in residence Dr. Schour was lecturing to the medical and dental students on anatomy. Now you all know Dr. Schour's fondness for models. When he came to the osteology of the head he decided he must have models of the bones and Dr. Furstman volunteered to make them. For some inscrutable reason Dr. Schour decided to start with the nasal septum and this was Larry's first assignment. When he showed up with this, behold, it was made of one half inch mesh chicken wire with the cartilage of the septum represented by cardboard. The cardboard was completely out of scale. So the model henceforth, as it grew, bone-by-bone, was always referred to as Cyrano. When it was completed this model stood four feet high and could be completely disarticulated in fifteen minutes. It did take a little longer to put Cyrano together again.

A year or two after he left the school, Larry felt the creative urge again and asked Dr. Schour to send him serial sections of deciduous teeth. You all have seen the beautiful mahogany models that he built. They can be taken down piece by piece, or rather layer by layer, so that the growth process can be made visual. These teeth have travelled from one corner of

this broad land to another, always under the personal supervision of Dr. Schour or myself. They are wonderful, except as sleeping companions in an upper berth! More recently Larry has gone back to skull work, making cardboard models of the bones and then covering them with wax. Several are on exhibit at the school.

Another activity which one cannot help recall is the preparation of manuscripts and their illustrations. This has always been a chore for me but in retrospect there are lighter moments. One of these was a presentation that Dr. Schour and I were asked to give jointly before the International Association for Dental Research. The preliminary announcement stated that all presentations would be limited to fifteen minutes. We were to talk about the effects of hypopituitarism on the teeth and face, a subject which, when published in full, required four normal length papers. We both learned how to abstract from this one experience.

The early stages were easy and we finally had it to the place where we could talk it in thirty-five minutes. But from here on it became tough. We chiseled and whittled at the manuscript, eliminating a phrase here and a word there and then trying it on the dog. The dog in this case was Sherry Steadman who used to come over Saturday afternoons and time us with a stop watch. Between rounds, Sherry would sit in the lecture hall by himself and play the piano while Dr. Schour and I would wrestle with sentence-shortening. Then we would try again. Eventually we had this corpulent body down to the bare bones but we were still a little long so we resorted to a desperate expedient. We calculated how long it would take the second speaker to reach the platform, figuring that we would be allowed "time out" for this and in this manner we lopped off the last half minute.

Everything went off as planned. Sherry was at the lantern and by this time he knew each slide by feel and we got through our presentation within the allowed time. Then the next speaker arose and consumed forty minutes on the "Benefits of the Tooth-Pick."

Saturday afternoons invariably found us up in the back room with a complete photographic set-up in operation. The slides we ruined make me shudder when I think of them and we were forever changing our film for something that was supposed to be better, but never was. And we always seemed to be working against a dead line.

The worst nightmare I can remember was occasioned by the retirement of Dr. Don Gallie, Sr., Head of the Department of Operative Dentistry. The faculty planned a big dinner for him and as a memento it was suggested that he be presented with a beautifully bound collection of pictures of all his friends. A piece of fine parchment was sent to each. (Dr. Gallie was a past president of the A. D. A. and had friends from coast-to-coast.) On this sheet a place was lightly marked off for a photograph and the recipient was asked to use any of the remaining portion in which to inscribe a message. It was desired that the pictures be all the same size so each friend was asked to send a picture of himself which we were to reproduce.

They came in every form that the mind of man ever devised. We had pictures that ranged in size from one inch square ping-pongs to oil paintings in frames, that arrived in shipping cases. The small ones had to be enlarged, the large ones had to be reduced; the sepias had to be photographed one way, the greys another. Dr. Noyes, the students and I worked

every Saturday afternoon and many nights for months on end and when it was over I prayed fervently that they would find a different mode of expressing affection for the next man who retired.

But to return to the matter of manuscripts: by actual count the department can be credited with dozens of publications to date. These have appeared in the literature of widely diverse fields. The American Journal of Anatomy, Journal of Diseases of Children, Surgery, Journal of Dental Research, Human Biology, pediatric anthropologic journals, beside the general dental and special orthodontic periodicals. And besides these published articles there were at least twice as many which were never sent in for publication. A number of those which you heard yesterday and today fall in this class. Members of the staff have appeared before all of the major societies of this country and I think back to 1940 when, during the school year I personally made nineteen appearances. Within two months during this time I reached the four boundaries of the country, talking in San Francisco, New York, Toronto and New Orleans. This task is a continuous one, of course.

Mention was made and abstracts were presented of work done with vital dyes, viz, madder and alizarine Red 'S' and I cannot help but recall a whole chain of incidents connected with this work. Mention was made of our obtaining a pair of monkeys and a baby monkey from the Champaign-Urbana campus. Thereby hangs a tale.

Monkeys are not very hardy animals in a climate such as this and shipping mortality, we were told, was very high. We decided that we would take no chances with these precious animals—we would transport them ourselves.

The Brodies had driven to Chicago in 1929 in a big Studebaker automobile. Heaters in cars were not prevalent in the east and I had steadfastly (that's a polite term for 'obstinately') refused to install one once we arrived in Chicago. For two or three severe winters we had driven in a cold car because I felt that the family should not be babied. When the decision was reached that we would personally conduct the monkeys to Chicago, Dr. Schour and I both felt that only a heated car would do, so the Brodie family finally had a heated car. Needless to say, I have never lived that one down.

Dr. and Mrs. Schour, Mrs. Brodie and I made the trip and brought the mother and daughter back with us. The mother's name was Min and the father was Jocko. Since the baby was a female we christened her Eve—the first lady. The two females were housed in a metabolism cage behind the partition in the back room and promptly became the focal spot of the department.

Only one person ever won the confidence of Min and that was George Prewitt. He spent most of his time in the room with them and they finally became tame enough to eat out of his hand. But even George could not get them to the place where they would eat madder, although George resorted to every trick he could think of. We would find him carefully peeling bananas, splitting them lengthwise, insinuating the madder in the middle and then reassembling them. But Min would catch on every time. The baby, like all babies, would have eaten it without a quiver but let her get a bit of it in her mouth and Mom would seize her by the muzzle, pry her jaws apart and then expertly pick the morsels out and roll the baby into the corner of the cage with a hearty cuff on the ears. That used to break George's heart.

There were other animal experiences as, for instance, the day Ernie Myer became a scientist. Each student was going to dissect a different animal and Ernie thought a cat would be easy to obtain. Together with another member of his class, he started out on a cat-hunt on the West Side. Drawing up to the curb he asked an urchin if he knew where there might be a cat and the boy gazed at him with unconcealed worship in his eyes. "Mister", he asked, "are you a scientist?" Ernie admitted that he was and the boy straightway obtained a cat for him.

The other members of the class had promised to prepare a lethal chamber for the animal while Ernie was searching so when he returned he found a cardboard carton all fixed up for Tom. It had a hole in the top to hold a wad of cotton for the reception of the chloroform. The cat was deposited in the box without too much trouble and the administration of the anesthetic was begun.

Things proceeded quietly at first as kitty began to feel the effects; the boys relaxed thinking everything was under control and not knowing that the second stage is violent in cats. But they learned that day. The cat came out through the top of the box, almost into their faces. Travelling like a cyclone it leaped to the top of a cabinet that stretched the full length of the laboratory. This was covered with bottles and kitty played tenpins with them. From here he continued around the room like a dervish, upsetting things, hissing and clawing. The boys by this time were up on the tables trying to avoid this flying devil and wondering how they would ever capture it. Then suddenly the cat slowed down to a walk, curled up on the floor and fell into a deep slumber. As one of the students remarked later, "We put an alley-cat into that box but a wild-cat came out."

One day, several years later, I entered the old building on a Saturday afternoon and as I trudged up the three and a half flights of stairs I heard strange noises which seemed to emanate from the department. It sounded like an animal, larger than a cat, however, suffering in agony. I quickened my steps and stepped to the door of the rear room where a strange sight greeted my eyes. The boys had apparently been cleaning the department as they were all there, it was a warm day and they were down to their undershirts. Petey Breidt, stripped to the waist, was hanging by his hands from a pipe under the ceiling and uttering the most ghastly yells. Just as I appeared he finished one off with, "I'm Tarzan!" The rest of the class, convulsed with laughter, had their backs to the door and did not see me until Petey in a very weak voice said, "Oh gosh, the Chief" and dropped limply from the pipe.

The department has played host to a number of meetings over the years, mainly to that of the Angle Society and its Mid-Western Component. I believe that we look back with fondest memories to 1937 and the occasion of the dedication of the department. The Mid-Western and Eastern Components were to hold a joint meeting in connection with the dedication and this meeting was to be held, as was the custom, beginning Sunday at noon and running through Tuesday. We decided to have a family party preceding it and accordingly sent invitations to all graduates to gather at the department Thursday morning.

A surprising number responded and for two and a half days we had a succession of papers, clinics and treatment demonstrations. Saturday at noon we knocked off, loaded a number of cars and headed for an old colonial inn at Grand Detour, a hundred miles away. There, Dr. Downs



had made arrangements for a sumptuous wild duck dinner and we took over the Inn for the night. It was a party that few of us who were there will forget.

The dedication meeting itself was a large one and very worth-while but there seemed to be a feeling on the part of the society members that we had stolen the icing off the cake by our two and a half day preliminary gathering. For the benefit of those who are not aware of it, the hand-colored photomurals in the Angle Memorial Room were the gift of the Mid-Western Component of the Angle Society. The furnishings of the room, exclusive of the display case, were the possessions of Dr. Angle and given to the school by Mrs. Angle.

Another phase of the department's activity has been the entertaining of distinguished scientists. Dr. Noyes very wisely included in the earliest budgets, an annual sum of \$500 for honoraria for such men. Among those who have come to us as lecturers are Dr. B. Holly Broadbent, Director of the Bolton Study of Child Development at Western Reserve University; Dr. Edmund H. Wuerpel, who until the war years lectured to every class; Dr. Wilton Krogman, eminent physical anthropologist, formerly of Western Reserve and Chicago Universities and now of the University of Pennsylvania; Professor Franz Weidenreich, authority on ancient man, now with the American Museum of Natural History. Dr. Milo Hellman, one of orthodontia's great research men, spent a week here a few years ago and Dr. Albin Oppenheim gave clinics and lectures here the winter before he died. More than this, he presented the department with labelled illustrations of every photomicrograph he had ever taken and intended to will his entire collection of microscopic slides to the University of Illinois but death intervened before his will could be changed. The department is now on its second guest book and they read like a Who's Who of science.

It was the Class of 1937 that conceived the idea of the library. These men not only obtained the gifts of complete sets of periodicals from older dentists but started the nest-egg that has become the library fund to which so many of you have contributed. This money permits us to buy any new books we desire and also pays for the binding of annual volumes of periodicals, theses and valuable monographs. The latest gift to the department are temperature controlled developing tanks for our headplates.

A development of the past year has been the addition of two U. S. Public Health Fellowships. The filling of these posts has only been possible because of the unprecedented demand for training. Our last two classes have been selected from lists of almost 400 applicants. In each group were almost forty individuals who met the full requirements of the Graduate School. Under these circumstances we select ten principles and five alternates and our fellowships are offered to men on the alternate list. These men spend half-time for one year working on the accumulation of research data. The other half-time is devoted to handling the cephalometer, and doing all of the photographic work of the department. These men are given places in the following class. As fellows, however, they are privileged to attend all seminars, and so forth.

This plan has worked out splendidly, thanks to the quality of the fellows. We are now rapidly catching up with our records and for the past year we have been accumulating lantern slides on every case that has been treated.

Our teacher output continues. At the present time six universities have Illinois men in charge of their orthodontia departments. Indiana has Dr. Adams, Marquette has Doctors Rohde and Milliette, California has Dr. Wylie, Northwestern has Dr. Thompson, San Carlos in Guatemala has Dr. Ortiz and the new school at Washington University has taken Dr. Moore. Word has reached us that Dr. Hedges has joined the staff at Temple and Doctors Steadman and McIver the faculty at Minnesota.

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