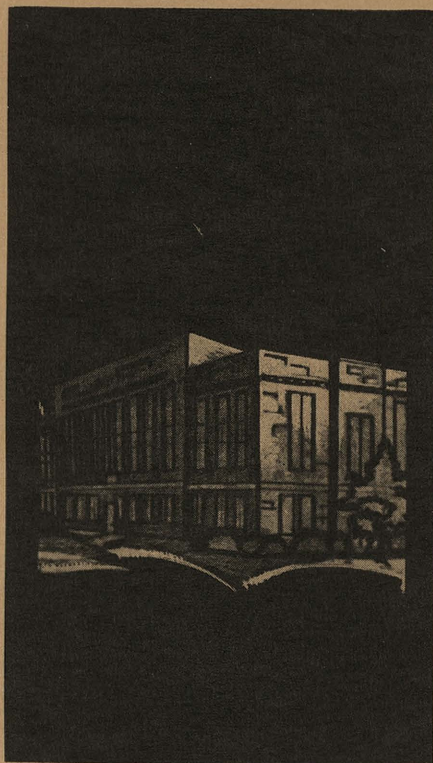

Alumni Bulletin

INDIANA UNIVERSITY



SCHOOL OF DENTISTRY

FALL ISSUE / 1965

Indianapolis, Indiana

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Indiana University School of Dentistry ALUMNI BULLETIN

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A free and non-profit bulletin issued by Indiana University School of Dentistry, Indianapolis, Indiana, for the purpose of keeping its alumni informed of the activities and progress of the School.

Alumnus' Work Comes Home — To the M. M. House Memorial Museum

*Dr. James E. House**

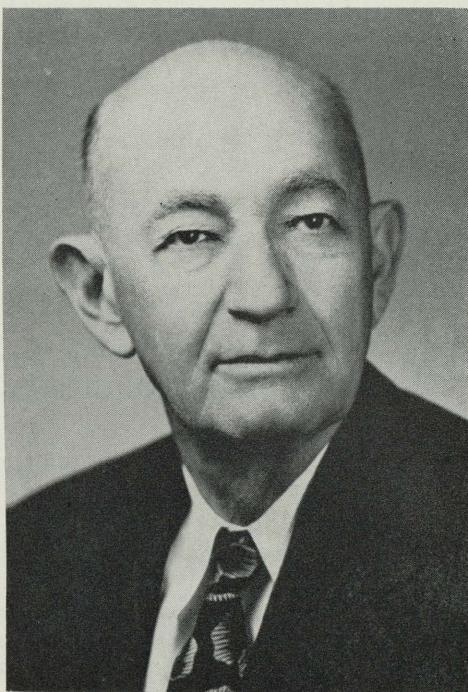
What is lasting or what is enduring? All of us have asked this question of ourselves at one time or another. We weigh the possible answers ranging from the building of great empires, the acquisition of great wealth, to the collection of facts and ideas which will help mankind live better, happier lives. We look about us and find examples of men who have devoted themselves to one cause or another, and ponder the relative merits of each as guideposts for our own lives.

The Indiana University Alumnus that this article is devoted to was no exception to these deep ponderings for guides to his life's work. At the time he was setting his goals, time was no problem, because he was a farm boy with plenty of time to think. The plowing of a field just before the turn of this century was not a speedy process, but rather one of long hours of trudging, while watching the earth change its face from the furrowing of the plow. This boy of seventeen had inherited a wild spirit and a clever mind, which were common companions to the frontier families who settled the then untamed West.

Concordia, Kansas in the 1890's was not a kind, easy place to live. For both from its people and nature's environment, sudden fits of violence were to be expected. Extremes of many kinds were common occurrences of the day. In order to survive and move ahead, a person had to learn to become a fighter; not with guns, but with well-placed energy and clever thought. Milus Marion House was no exception to these standards for survival. The wandering farm hands who were hired to work on his father's farm had to be dealt with in a manner which such men understood, and often the only thing they understood was

proof that they were dealing with a stronger, greater man than they were themselves. Such proof was not often a matter of words alone. But for Milus, these battles proved to be nourishment for his soul, because the powerful force of a clear-cut success gave his wild spirit a taste of the pure joy experienced in seeing a challenge, meeting a challenge, and overcoming the obstacles with success.

Dentistry was introduced to Milus in a manner that made his eyes as big as saucers. His mother went into town to have a molar repaired by the local dentist, and came home with a shiny gold foil filling, for which (Milus was amazed to hear) she paid five dollars. Milus worked in the fields from dawn to dusk, six days a week for the sum of five dollars, and this dentist had earned his five dollars in a three hour



Dr. Milus M. House

* Associate Professor of Prosthetics

period. With this news, armored with his youthful vigor that knew no bounds, Milus set for himself a goal which was to prove the means of taking him around the world, and becoming internationally known.

Even by the standard of 1900, to attempt to go through dental school with starting assets of twelve dollars and a bicycle, was somewhat short of what might be termed adequate financing. But, like so many success stories, the story of Milus' whole life would have to be told with standards that are in direct violation to standards which would normally be used. This man was destined to live his life as if there were no previously set standards required for success. But, what he lacked in knowledge about the usual rules for approaching a problem, he more than compensated for with his overwhelming courage and determination to achieve or be creative.

George Edwin Hunt, M.D., D.D.S., the first dean of the Indiana Dental College was a man whom Milus revered all his life. For had it not been for Dr. Hunt, with his sincere encouragement and loan of funds from his own pocket, the year of Milus' senior dental training, history might have recorded one more farmer and one less dentist. This experience too, proved to be a turning point for Milus from his previous training of hard work and violence, for now he became the recipient of a helping hand, when the kindness of a helping hand really meant survival for him. This lesson Milus never forgot, for later he was to become the one who extended the helping hand to many a person. In like manner, he became the number one donor to the Fund for Dental Education, and helped an orphan boy through dental school by the name of Merrill Swenson, who contributed much to dentistry in the form of teaching and writing of the popular prosthetic textbook used today.

Graduation from dental school proved to be a triumph which was greatly overshadowed by the contingent circumstances

of debt for Milus. Dental training, and letters behind his name were nice, but proved to be hard to eat. For without funds to set up an office to practice his skills, this avenue of livelihood was impossible. However, a new trend, of almost revolutionary proportions, was developing in dentistry during this 1903 period. Dentists were becoming busy with their drilling and filling work, and they were seeking auxiliary help to fabricate their dentures and dental appliances for them. The dental laboratory business was definitely on the upswing, and the custom was generally to hire a dentist to administer the laboratory and its technicians. During his years in school, Milus had worked for the Kremmings-McGrath Dental Manufacturing Co., which had its headquarters in Indianapolis. Dental amalgam had survived the "Amalgam War" and Milus' job here had been to keep track of quality control, to prevent too much shrinkage of the amalgam.

It was through these connections he acquired his next job as a salaried employee in Boston, Massachusetts for the express purpose of starting a dental laboratory. This adventure was most rewarding, because Milus worked himself out of debt, in spite of the ten percent interest rate which was common for the day. Also, he now had a new talent as an organizer, and soon was asked to start another dental laboratory in Pittsburgh. This one proved rewarding, because he could accumulate the needed funds to return to Indianapolis and marry the girl who had been waiting for him, and settle into his own practice.

Twenty years were spent in Indianapolis, which were packed with triumph and disaster. The corner of Forty-second and College Streets was chosen to be his combination residence, dental office, and dental laboratory. This was not chosen because it was a plush atmosphere, or even because it was close to the downtown area, because it was neither. Milus was a practical man, and a friend of his had

explained to him how his company would choose locations for new cigar stores (with the old wooden Indians out front). The system in vogue then was to sit a man down on the corner with a counting device in his hand to record how many people passed that corner each day. They then estimated that every twelfth person would mean a potential sale, should the store be erected there. Using a borrowed counter, and using the same logic, Milus calculated the Forty-second and College Street corner was his best choice.

It was here that Milus was to receive his first son, Howard Payne House. But when Howard was six, tragedy forced its way into the household, for it was then that Howard's mother died. This loss was a severe one to both Milus and Howard. For Milus, his only defense to overcome his grief was to bury himself in his work, for he truly loved his chosen work of dentistry, in all of its phases. For example, it became very distressing to Milus during this period that whenever he made immediate replacements of dentures for natural teeth, his patient's appearance was always changed. To be making immediate denture replacements in 1914 was not impressing Milus because of its rarity, but the lack of good porcelain tooth color and form did impress him, and definitely adversely. Milus wanted very much to serve his patients well, but in this area he did not have the materials necessary to do the job well. Plus this was still the period in dentistry when men did not share their knowledge with others, and if one wished to find out about porcelain and prosthetic tooth manufacture, he was jolly well advised to start digging it out on his own, through the trial and error method. Of course, this attitude and system was not news to Milus, for he had grown up within this framework. So, find out about porcelain and tooth manufacture he did—the hard way.

The then world leader in tooth manufacture was the S. S. White Dental Manu-

facturing Company, and the recognized authority in the carving field was Dr. J. Leon Williams. Dr. Williams and Milus became great friends, although two more different types of men could not be imagined. Dr. Williams was a very stately, cultured gentleman type, and Milus was still the farm boy from the farm, with a lot of horsesense, and a talent for blacksmithing, turned to dentistry. But, different as they were, personality-wise, these men made a fine carving team together. The product of their work still lives today in the form the 133 L and 133 M forty-five degree posterior tooth, now manufactured by the Dentists' Supply Company of New York. Milus was responsible for the occlusal and lingual carvings, and Dr. Williams for the buccal surfaces.

Another area of dentistry which grasped the attention of Milus during this period was precipitated by the work of Dr. William H. Taggart. Casting gold inlays using the vacuum casting machine called the "pig" proved to be a very unpredictable adventure. So Milus and an Indianapolis-based cousin of his set about to perfect a new system for casting gold inlays. Their explorations were rewarded in the form of a basic patent for a new system called centrifugal casting. His centrifugal casting machine was quite a welcome relief to the art of dental gold casting, because it proved to be very dependable and accurate for sizing. By chance, an executive connected with the Yale Lock Company became a dental patient under the care of Milus, with the required treatment of re-making a fixed dental bridge in his mouth. This dental bridge had been quite a bothersome thing to this man, because this was not the first time it had had to be remade. So when Milus told the man he could make a one-piece solid casting which would span the space, and fit accurately, the statement took on the air of a bet rather than a dental treatment, since this lock company executive recognized that if such a thing were possible in

dentistry, it would be very applicable to the making of accurate gears required for the lock business. Milus won the bet, and also received an offer from the Yale Lock Company to buy his patent. However, the offer was short lived, because the partner in the venture, Milus' cousin, let greed for more money get the best of good judgment, and the Yale Lock Company took the alternate route of succeeding in breaking the patent. Actually, it had been misfiled under two names, equally, and it was shown that two men could not think of the same thing at the same time, since the basic foundation upon which patents are issued points to rewarding one man above all others for his original thought. There was no question that the original thought had been generated by Milus, but this time he lost his opportunity to defend his position, and the centrifugal casting machines of his design were used in dentistry and industry without royalty to its originator.

Dental articulators had been recognized for sixty years or more, as a desirable tool to hold dental casts of the maxillary and mandibular arches in the same anterior, posterior, sagittal, and vertical planes as are presented by a patient. But the duplication of the movements of the mandible in an articulator was but an embryo of an idea. The evolution of this new idea has not ceased even today, but for the twenty year period between 1915 and 1935 it can be said that this evolution took its greatest spurt toward solidification. In part, this was brought about by one of the rare plus factors which comes from world wars. In war time, men within a country will try very hard to work together toward a common goal, and in dentistry, the case of the dental articulator was no exception. Milus, Hanau, Monson, Stanbury, Hall, Nelson, Campbell, Smedley, and several more were ready by 1919 to sit down together and hammer out the principles required for making a dental articulator

duplicate the maneuvers a human jaw might take. Their organization was titled "The National Society of Denture Prosthetics," and still lives today as an extremely productive force in dentistry under the new name of "The Academy of Denture Prosthetics."

Dental leaders had also recognized that academic achievement was not being properly rewarded in dentistry, and Milus with a few others, chartered two organizations for this purpose. Thus the American College of Dentists and the Pierre Fauchard Academy were born.

The year 1919 was a memorable year in another direction for Milus, because it was this year that he took in marriage his second wife, Alta. This was to be a fruitful marriage, from which he gained a wife, and three more sons: Warren, William, and James.

When the Hume-Mansur Building was built, Milus took office space there for his second place of practice. Just across the hall from him, on the tenth floor, was located David House, who was to be chairman of the I.U. Dental School Crown and Bridge Department. Dave and Milus laughed many times about treating each other's referred patients, for although they were not related, they were the best of friends, and both were equally able to do fine service for their patients.

Teaching was a sincere interest of Milus' as well, and he found time to give of his knowledge to senior classes at I.U. Dental School, and postgraduate courses to Indiana dentists. Many will also remember his six-week summer courses given at Minnesota Dental School.

Basic research devoted to dental problems was a rare thing in the mid 1930's. So, when Dr. Deener presented the challenge to Milus to head up a research center in Kansas City, Missouri, specifically devoted to basic and clinical research in dentistry, Milus accepted with enthusiasm. Dr. Deener was a graduate dentist

who had moved to Oklahoma, just prior to the oil boom there. His talents for developing oil fields proved to be more financially rewarding than his talents for dentistry. But Dr. Deener had not forgotten dentistry and its needs. So under the guidance of Milus, a half-million dollar research center was erected, and extremely talented staff personnel was acquired from Mayo's and like institutions. Much basic research on focal infection as it related to dentistry, and particularly endodontia was flourishing. But, little did Milus realize, that four years after moving to Kansas City and the Deener Institute, he would be a totally broken man, physically. In fact, he was to suffer for two years without a correct diagnosis, before his disease, amoebic dysentery, was to be discovered and cured. During the first year and a half his body weight dropped from a normal 160 pounds, to 109 pounds, and his strength dropped proportionately. He was forced to turn over the reins of the Deener Institute to others, but his fighting spirit would not allow him to lay down and die. Weak as he was, he announced to his wife he was going to California alone, and soak up the sunshine until he got well. In California he was restless with nothing to do, so he enrolled in a refresher course, designed to prepare dentists to take the California State Dental Board examination. Here he was being taught bacteriology by a physician who recognized Milus was entirely too sick to be a pupil, and offered to be his physician instead. The treatment was severe, but a cure was forthcoming. So, Milus did take the California Dental Board Examination, and was awarded his license to practice there.

Milus stayed in California, and called for his family to join him, because he knew his road back to health and strength was a few years away. His choice of a return to the farming life resulted in his purchasing seven acres of orange and lemon trees in Whittier, California. However, his

days in the sun and fields were short lived, even though his residence was quite literally in the country, because his former patients somehow located him and before long began arriving from New York and elsewhere for oral rehabilitations. His office now was not the plush Hume-Mansur Building, but rather a converted carriage house adjacent to his residence. The story of the better mouse trap was retold in a real life setting. The depression years of the thirties were disastrous to most dentists, but not to Milus. He recognized that these dentists had loads of time on their hands, and he set about to fill part of it for them in a constructive manner. On his ranch he converted a large chicken house into a postgraduate lecture hall, and started dental study club groups. Each group would meet for a full day each month, and he enrolled about twenty dentists in each club.

The study club idea grew, and so did the building which housed them, until sixteen such groups were meeting in Whittier each month. The groups met nine months per year, but the summer months were also occupied with intensive six-week courses, attended by men from out of state. It was one of these summer courses that Dean William Crawford attended, with his 16 mm. movie camera, and 35 mm. Leica camera in hand. Dr. Crawford lent his photographic talent to this dental teaching cause, and recorded the technical and teaching know-how that Milus had built up over the years. In fact, all of the study clubs helped in developing teaching aids for the prosthetic phase of dentistry, which are now a part of Indiana University Dental School, in the M.M. House Memorial Museum.

It was in Whittier that Milus finally found time to carry out his original idea of solving the riddle of how to make porcelain prosthetic teeth fit the patient, and look like natural dentition. He surveyed literally thousands of extracted teeth, in

order to come up with a new classification of tooth forms, and from these selected typical examples of each form. The typical examples were made into molds, which were 20 per cent larger than the natural tooth (to allow for porcelain shrinkage) and turned over to the Dentists' Supply Company to be manufactured for the profession. These are the molds which today are known as the Bioform and Bioblend prosthetic teeth.

Milus House practiced dentistry fifty-two years, and enjoyed retirement on the beaches of La Jolla, California for another four. He passed on to his reward in the year 1959 at the age of 80.

The original statement of this writing posed the question, "What is lasting or what is enduring?" From the life of Milus House there seems little doubt about his answer to this question. His was a life and work, devoted to human kindness and a fierce desire to make the world around him a better place to live while he was alive and after he was gone. On both fronts he succeeded. Many was the patient who lived a fuller, happier life because of the talented hands and mind of M. M. House. The extension of himself through his pupils can be said to be without measure of time or benefits wrought. This can only be estimated as being magnanimous. His methods and teaching aids are still fresh and valid today; therefore, they are being used.

Milus had four sons, to whom he gave a legacy. Uppermost among its parts was his driving spirit and will to work. These four sons teamed up after the passing of Milus to create a solid home for the teaching aids, and prosthetic case examples which he had so carefully collected over the years. So, the Alma Mater that gave Milus his first opportunity toward a dental career seemed the logical place for these materials. But, will these be used or stored, or even worse, thrown out, became the question of most import. Therefore, it was decided that the four sons should

donate the materials jointly to the I.U. Foundation, and further, to provide the needed funds and personnel to set the materials up in Indiana, so that there would be no question as to their teaching value. The project started three years ago, with the packing of materials which filled two large moving vans, and a year later were shipped to Indiana.

The dental school was bursting at the seams with activity, and extra space was non-existent. So James, who had elected to give up his practice in Whittier and move to Indiana for the project, moved the materials to his home which he purchased in Indiana. At this residence, a large log cabin which had been used as a recreational hall previously, was converted to house the materials on a temporary basis. In this log cabin, the last two years have been fruitfully spent in working with these materials to convert them into an outstanding teaching museum of prosthetic dentistry. Mr. Ivan Welborn, the dental technician who had been working with Milus House and James House for the past thirty years, also moved to Indiana, and has spent his full time for two years toward the museum project. Even in its present location, these materials have aided the I.U. teaching program, because two graduate students have already collected the data for their masters' theses from the 250 numbered skull collection of the museum.

Hopes for the future? Presently plans are being drawn up to house these materials on the I.U. Dental campus, and the necessary financing for this building project is being sought. In this regard, a most sincere solicitation of donations toward the M. M. House Memorial Fund of the I.U. Foundation is herewith extended. It is the belief of all who are working with this project that it will be an extremely valuable addition to the teaching program of I.U. Dental School, and to the lasting good of the profession.

The Dental Auxiliary Training Program At the Fort Wayne Regional Campus

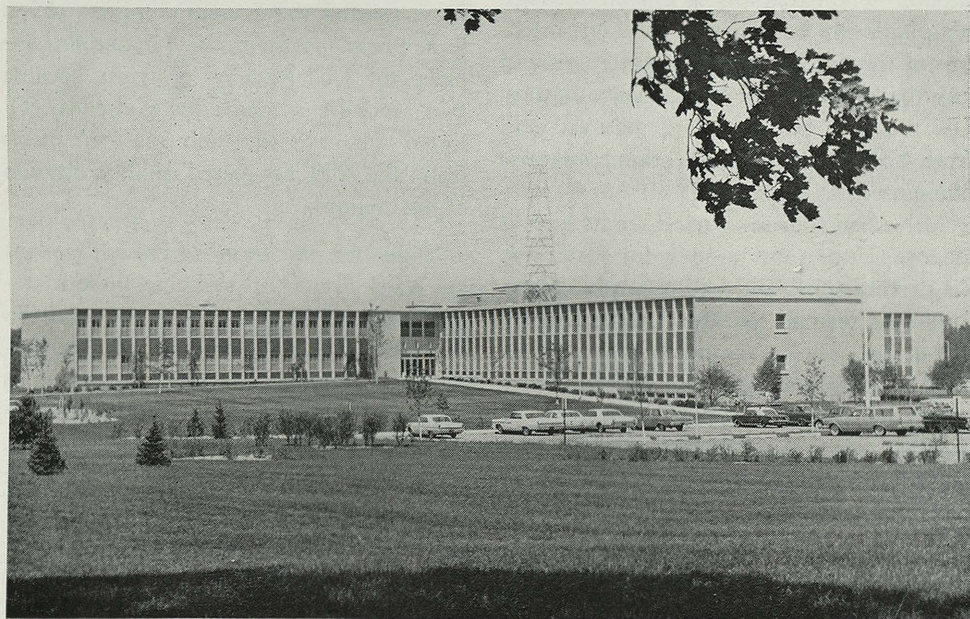
With the beginning of the Fall semester of 1964, Indiana University, in cooperation with Purdue University, entered into a new and unique joint venture in higher education—two major universities housed under one roof.

On a two hundred and sixty acre campus, located on the northeastern edge of the City of Fort Wayne, a six million dollar teaching facility was opened to the citizens of Indiana.

Because Bloomington and Indianapolis campuses have almost reached the saturation point in reference to the number of students, the University administration has sought to offer more, both in quantity and quality, at its various regional campuses. While the regional campus idea is not original with Indiana University, certainly the administration has come up with some unique adaptations, and specifically the

School of Dentistry has risen to the challenge and for the past year has been experimenting with "off-campus" courses.

The Indiana University School of Dentistry immediately jumped to the foreground by opening a Program of Dental Hygiene at the Fort Wayne Regional Campus under the direction of Dr. Ralph Schimmele. Eight young women have completed the first year, and twelve others have been selected for next year's freshman class. Eventually a complete class will consist of twenty first-year students and twenty second-year students. The faculty consists of both dentists from the Isaac Knapp District Dental Society and non-dental members of the Indiana University-Purdue University Regional Campus faculty. Of the dental faculty, seven have completed at least one year of graduate study and five have taught, or are
(Continued on page 12)



Indiana University Regional Campus Facility at Fort Wayne which includes the Dental Auxiliary Program.



Dental hygiene students and staff in the dental clinic area. Dr. Ralph Schimmele, Assistant Professor of Dental Hygiene and Dr. Phillip O'Shaughnessy, Instructor of Dental Hygiene, are shown in background. Mrs. Gloria Huxoll, Clinical Supervisor, assists student.

DENTAL AUXILIARY

(Continued from page 10)

teaching, at the Dental School in Indianapolis.

Mrs. Gloria Horn Huxoll, a 1952 graduate of the first class of dental hygiene, has assisted Dr. Schimmele in setting up the program in addition to her duties as lecturer, instructor, and clinical supervisor.

One of the problems arising during the first year has been that of making the local residents aware of the available services, and hence there has been a slight shortage of patients. This was not unexpected, and while it was only a temporary problem, steps were taken to remedy the situation. Dr. Schimmele, who has been very active in the field of mental retardation, contacted officials of the Fort Wayne State Hospital and patients were treated at the Indiana University Regional Campus facilities. Much credit should go to Mr. Bernard Dolnick, Superintendent of the State Hospital, and Dr. Glenn Brinker, Director of Dental Services for the Hospital, for their cooperation in solving this problem and yet allowing Indiana University to be of service to the State Hospital.

With the ever increasing demand for trained auxiliary personnel in the dental office, the Dental School administration inaugurated a dental assistant program this September in conjunction with the already established program in dental hygiene. Previously, the only training available in the Fort Wayne area, with the exception of the University of North Carolina's correspondence course, has been a night course offered by the Fort Wayne Community Schools System and the Isaac Knapp District Dental Society. This course consisted of 108 hours of training. The faculty for the new program will consist of, by and large, members of the Dental Hygiene Program. The first class will begin in September of this year and will

total ten students. The course is a two semester, nine months course, and meets all of the requirements of the American Dental Association Council on Education.

To aid Dr. Schimmele in establishing the dental assistant program, the University has acquired the services of Miss Bernice Rummel. Miss Rummel, a Certified Dental Assistant, was employed as a dental assistant in South Bend for twenty years. Miss Rummel has been active in dental assistant activities and has held numerous positions in local and state organizations.

The dentists of the Isaac Knapp Dental Society have given much encouragement to the assistant training program, even to the point of contributing enough money to buy a complete dental unit and chair to be used for postgraduate courses and student demonstrations. Both participating and non-participating types of postgraduate courses are being planned.

No project of this type is an individual effort. Many people have had many meetings and numerous locations to plan and effect Fort Wayne's new dental program. Key people in this planning have been Miss Fisk, Dr. McDonald, and Dr. Bogan. However, it would be amiss not to mention the man behind the scenes, Dean Hine, with whom the responsibility for the success or failure of this program must of necessity lay. Also a special word of thanks and appreciation should go to Dean Ralph Broyles, director of the Indiana University Regional Campus, who has given of his time and talent and helped solve hundreds of seemingly unsurmountable problems. As an indication of his concern, he has even given up his fishing time to be of aid to the program. Such dedication is almost unknown in these parts!

It is hoped that the new dental facilities and program at the Fort Wayne Regional Campus will fill a void that has existed in Northeastern Indiana for too long.

Dr. Dykema Assumes Chairmanship

On July 1, Dr. Roland W. Dykema assumed the chairmanship of the Department of Fixed and Removable Partial Prosthodontics. He succeeds Dr. John F. Johnston who became University Professor of Dentistry.

Dr. Dykema is a native of Raymond, Minnesota. He attended Wheaton College and Tufts University in the Navy V-12 program. From Tufts he was sent to Indiana University School of Dentistry, graduating in 1947. One week later he married Miss Dorothy Cooper, whom he had met at Wheaton. Upon graduation he joined the Operative Department but was transferred to Crown and Bridge during his first year as an instructor. He was called into the Air Force in 1952 and served 18 months in Fukuoka, Japan, returning to the faculty in 1954.

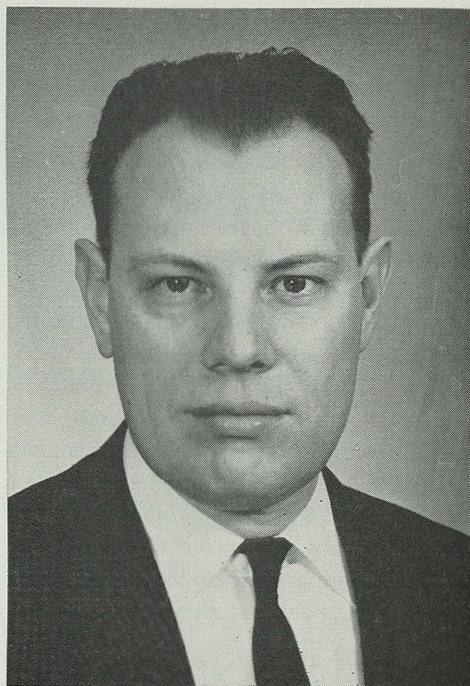
Dr. Dykema has taught every phase of the Crown and Bridge-Partial Denture courses of study, both undergraduate and postgraduate. His first semester lectures to the seniors of articulators, the theories of occlusion and his graduate course in the theory of gnathology are unique. The standards of excellence which he sets for himself he tries to maintain in the student clinic.

He is a Fellow of the American College of Dentists and a member of the American Academy of Crown and Bridge Prosthodontics, the Francis B. Vedder Society of Crown and Bridge Prosthodontics, The Equilebration Society, the Dental Materials section of the International Association for Dental Research and Indiana

University School of Dentistry Advanced Partial Prosthodontics Society. In July in Toronto, he was elected secretary of the Partial Denture section of the American Association of Dental Schools.

Dr. Dykema has given lectures, refresher courses and clinics before the Academy of Restorative Dentistry, The American Prosthodontic Society, The American Dental Association, before many societies, both local and state, in the United States, Canada and Mexico and in about half of the dental schools in this country and Canada.

He is efficient, thorough, learned and receptive to new ideas. The department is indeed in good hands.



Dr. Roland W. Dykema, new chairman of the crown and bridge department, succeeding Dr. John F. Johnston. Dr. Johnston becomes a University Professor of Dentistry.

Alumni Association News

Dr. H. William Gilmore, President

The dental alumni association is finishing one of its largest years in the 23 year history of the organization. Attendance and participation indicate more activity each year for our organization. One of the largest growth factors is holding the class reunions at the fall conferences. Class attendance for the functions has been excellent and they certainly compliment the fall conference program.

The "Constituent Alumni Award" is the measure used to judge the respective school groups in the general I. U. Alumni Association. The award is seven years old and the School of Dentistry has won the judging four different times. Our reputation as an alumni group is quite respected in the university circle.

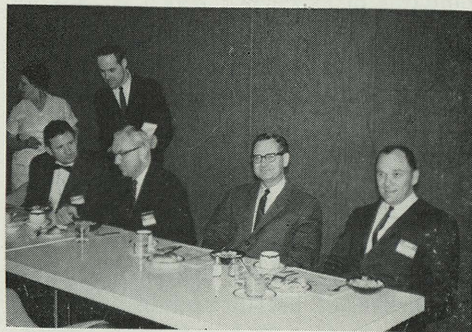
Our chances for winning the award again this year are excellent. Dr. Paul Starkey, newly appointed executive council representative, will present the report to the council. In many categories the association has provided good programs that have had special interests in dentistry and the school. Keeping the alumni informed about the teaching program and providing current concepts in subject matter have been attempted by most of the departments. Continued education has remained a key factor for the success of the profession and the alumni activities have served to support the program.

The dental alumni group has established new records in the area of membership. There are now 1040 members of I.U.S.D.A.A. and this constitutes 44 per cent of the living graduates. This is an all time high and no other component society has been able to approximate the figure.

The financial campaigns sponsored by the dental alumni group have now been

consolidated. It is possible to place gifts in three different funds in the I.U. Foundation that directly benefit dental education at Indiana University. The dental student loan fund and the athletic scholarship fund are still active and are being used in the same programs as the past. The new fund is the "Chair Program" that supports the purchase of special teaching equipment in the school. The success of the campaigns are made possible by your participation. Opportunities for giving will be made available throughout the year.

The officers and board members are trying to enhance the alumni program for next year. Your ideas are solicited and of course we hope you will be able to attend the conference. We are still the only constituent alumni group that holds an annual meeting on the Bloomington campus. Our success will be assured by your participation. The Bulletin will be in print before our meeting and thus our new officers will be listed in the spring issue.



Several members of the Board of Directors of the School of Dentistry Alumni Association at a recent Board meeting. (Left to right) Dave McClure, H. Wm. Gilmore, Ralph McDonald, Ralph Phillips, and Paul Starkey.

Dean Hine reports that...

July 1, 1965 marks the beginning of the 21st year that the present Dean has been in office. The first administrator of Indiana Dental College, Dr. P. G. C. Hunt, served from 1879 to 1896; he was succeeded by his son, George Edwin Hunt, who served from 1896 to 1915, Dr. Frederick Henshaw was Dean from 1914 to 1938; and Dr. William Crawford, January 1940 to June 30, 1945. In addition, two men served as acting deans, Dr. David A. House while Dr. Henshaw was serving in the Armed Forces during World War I, and Dr. Gerald Timmons, who was Acting Dean after Dean Henshaw's death until Dean Crawford was appointed in 1940. The present incumbent has served longer than any of the previous deans excepting Dean Henshaw.

During the last two decades, dramatic changes have occurred in dental education in this country and in Indiana. As far as our physical plant is concerned, the dental school underwent a major remodeling in 1950 and many minor changes have been made at intervals since. In 1960 a 1½ million dollar addition was added to the building, increasing the available space by approximately 60 per cent. In addition, the Medical Science Building was made available in 1958 for our freshman and sophomore dental students.

Many other changes have also occurred, of course. The first graduate degree given to a dentist in the field of dentistry was granted in 1946 and since that time dental graduate activities have expanded at an alarming rate. This past year 76 full time and 41 part time graduate students enrolled in the Dental School (18 of the full time students were from 12 foreign countries). Also, a dental hygiene curriculum was instituted in 1950 here in Indianapolis

and in 1964 a dental hygiene curriculum was offered at the Regional Center in Fort Wayne. Faculty and assisting staff have more than doubled, and research has expanded to a point that was unbelievable even ten years ago.

The educational and patient treatment programs of the entire I.U. Medical Center have expanded at a comparable rate. The Medical School is now one of the largest in the country, a new 14 million dollar hospital unit is under construction, a new building for the School of Nursing is in the final stages of planning, and money has been given to plan a new Dental School building.

The increasing complexity of the Medical Center activities has resulted in the appointment of a Provost, Dr. Kenneth E. Penrod, who had a similar position at the University of West Virginia. Dr. Penrod has a deep understanding of education in the health sciences and will undoubtedly prove invaluable in coordinating the many facets of Indiana University Medical Center's program.

Alumni will be interested to know that Professor Ralph W. Phillips was elected Vice-President of the International Association for Dental Research at the annual meeting in Toronto last month. This is a high honor which Professor Phillips has brought to Indiana and we extend to him our sincere congratulations. He is the second member of our faculty to hold this position; the Dean was president of the Association in 1953. Dr. David Mitchell was reelected to the Publications Committee of the I.A.D.R.

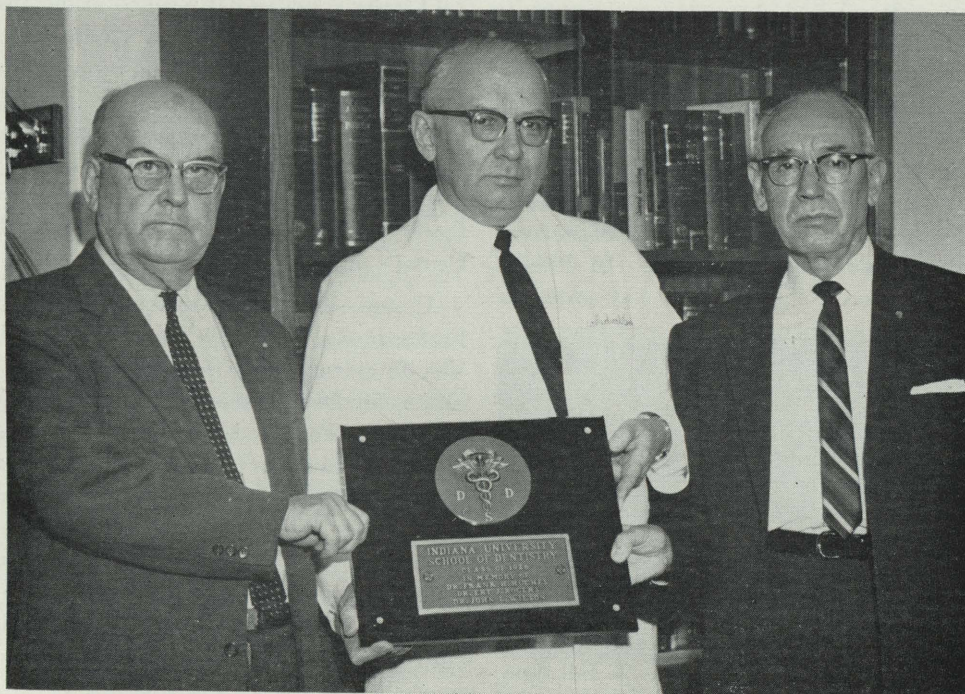
Faculty members were also active in the annual meeting of the American Association of Dental Schools; Dr. Robert Derry served as Chairman of the Complete Den-

ture Prosthesis Conference Session; Mrs. Mabel Walker as Vice-Chairman of the Dental Libraries Conference Session; Dr. H. William Gilmore as Vice-Chairman of the Operative Dentistry Conference Session; Dr. John F. Johnston Vice-Chairman of Removable Partial Prosthesis Conference Session. Dr. Johnston also presented a lecture on the concept of teaching graduate crown and bridge prosthodontics and Dr. Ralph E. McDonald lectured on the importance of the library in the graduate program.

Dr. Roland W. Dykema was elected secretary of the Section on Removable Partial Denture of the A.A.D.S. and Dr. H. Wm. Gilmore was named chairman of the Section on Operative Dentistry. Dr. Gilmore was also elected President-elect of the national organization of Omicron

Kappa Upsilon, the dental honorary fraternity.

The Committee on Teaching of the Dental School is to be commended for its many activities this past year, culminating in the planning of a three-day teaching conference at Spring Mill Park, September 12-15. The keynote speaker was Dr. Robert Mager of California, who has been active in developing techniques for programmed instructions and teaching machines. Other speakers included Vice President Ray L. Heffner and Provost Kenneth Penrod. Approximately 100 dental faculty members attended. This is one of a series of projects being planned to help upgrade the teaching program at the Dental School and to prepare for what appears to be an inevitable increase in enrollment.



Dr. W. B. Currie and Dr. Russell Gallagher present memorial plaque from Class of 1926 in honor of Doctors Frank H. Hughes, Ert J. Rogers and John L. Wilson. Dean Hine accepts on behalf of Indiana University School of Dentistry. The plaque has been mounted in the third floor clinic.

Faculty Publications-1964

Each year the Alumni Bulletin carries abstracts of papers published by the dental school faculty. Although not entirely complete, the following group contains a major share of the publications for 1964.

R.W.P.

Isokawa, S., Van Huysen, G. and Kosakai, T.: Historadiography of Tubular Enamel and Dentin of Osseous Piscine Teeth, J. Nihon Univ. Sch. Dent. 6:79, 1964.

Ground sections of bony fishes teeth show dentin similar to mammalian tooth dentin but without peritubular calcification. The enamel, however, contains empty tubules in its outer half. These tubules have a diameter of about 2 microns at the surface of the enamel but taper and disappear in the center of this tissue.

Bixler, D. and Muhler, J. C.: Combined use of three agents containing stannous fluoride: a prophylactic paste, a solution and a dentifrice. J. Am. Dent. A. 68:791, 1964.

A clinical study was conducted in which five groups of children were given different combinations of three stannous fluoride treatments: (1) stannous fluoride prophylactic paste, (2) topically applied aqueous stannous fluoride solution and (3) the home use of a $\text{SnF}_2\text{-Ca}_2\text{P}_2\text{O}_7$ dentifrice. All of the children in this study were lifelong residents of a community whose water supply contained 0.05 ppm. of fluoride. Children were divided into five equal groups; two examiners, each examined half of the children. The results of this study indicate that: (1) stannous fluoride, when incorporated into a compatible prophylactic paste, reduces dental caries in children, and (2)

the use of a combination of three different methods of stannous fluoride treatment (in a compatible dentifrice) will result in a significant reduction in human dental caries. The latter combination was superior to the other combination of methods tested in this study.

McDonald, R. E.: Gingival Tissue Reaction to Topical Application of Stannous Fluoride for the General Anesthesia Patient. J. Dent. Child. 31:100, 1964.

Parents of children receiving a general anesthetic for restorative procedures should be informed prior to the treatment that the stannous fluoride application may cause sloughing and even ulceration of the gingival tissues and mucous membranes.

A thorough prophylaxis should precede the placement of the rubber dam for a quadrant of restorations. Stannous fluoride should be applied after the restorative work has been completed for that quadrant, but before the removal of the rubber dam. Lubrication of the mucosal tissues with petrolatum prior to rubber dam application may reduce the tissue reaction.

Since recent studies have shown that the 30-second application of stannous fluoride is as effective as the four-minute application, the shorter application time is recommended.

If a rubber dam is not used for operative procedures, it is suggested that an oral evacuator be used at the time of the topical fluoride application to limit the amount of solution that flows over the tissues and to prevent possible aspiration of the solution.

Burstone, C. J.: Distinguishing Developing Malocclusions from Normal Occlusion, *Dental Clinics of America*, July, 1964.

A normal occlusion in a developing child differs considerably from the concept of normal occlusion in the adult. Not only does significant variation exist from one chronologic age to another, but considerable variation is present in developing normal occlusions within the same age group. A thorough background in the individual development of normal occlusion is necessary in order that normal occlusions are not mistakenly interpreted as developing malocclusions.

O'Shaughnessy, P. E.: Chronic lymphatic leukemia suggestive of multiple myeloma. *O. Surg., O. Med. and O. Path.* 17:170-174, 1964.

A 58-year-old white man was referred for consultation concerning bilateral maxillary soft-tissue lesions. Unknown to previous therapists, the patient also was being treated for chronic lymphatic leukemia. Lateral head films, as well as periapical roentgenograms taken at this institution, were very suggestive of multiple myeloma. The biopsy report of the soft-tissue lesions was compatible with the diagnosis of chronic lymphatic leukemia. Following the patient's death, an autopsy revealed lymphosarcoma. This case illustrates the occasional intimate relationship between lymphocytic leukemia, lymphosarcoma, and simulated multiple myeloma. Roentgenographic findings may be very suggestive, but rarely are they pathognomonic.

Simpson, Theodore H., Jr.: Mucocutaneous pigmentation: Peutz-Jeghers syndrome? Report of a case. *O. Surg., O. Med. and O. Path.* 17:331-334, 1964.

The case presented is of interest to the dentist because of the oral findings. Detection of this syndrome is important,

since the intestinal condition may be recognized early, through a tentative diagnosis based on the oral and perioral pigmented findings.

Baker, Bill R.: A family with bilateral congenital pits of the inferior lip. *O. Surg., O. Med. and O. Path.* 18:494-497, 1964.

An analysis of four generations of one family revealed eight cases among twenty-nine members. Four cases are illustrated.

O'Shaughnessy, P. E. and Mitchell, D. F.: Effect of altering physical roentgenographic factors on patient radiation dose levels.

To determine which of eight combinations of three physical safety factors of the X-ray machine is the safest to use during routine intraoral roentgenography, three variables were studied: target-film distance, filtration and collimation. All eight combinations were used at 70-kvp, 80-kvp and 90-kvp levels (24 combinations). Each combination was used to measure the ionization radiation level at seven body areas of a cadaver, representing a patient on whom a routine, full-mouth intraoral roentgenographic survey was performed. A white male, fully embalmed cadaver was used; it was placed in a sitting posture for roentgenographic exposures.

The ionizing levels were measured with Victoreen Model 541/A. Ionization chambers were precisely placed in the regions of the pituitary body, thyroid gland, porta hepatis, hilus of the spleen, adrenal gland, testes and femur.

The long cone, added filtration and collimated beam combination reduced the radiation level to the lowest measured in this study in five of the seven regions (those receiving radiation of the secondary and scattered type only) and was extremely low in the other regions.

Collimation of the beam appeared to be the most important single factor of those studied in reducing unnecessary primary, secondary and scattered ionizing radiation.

All radiation levels were small, and it is felt that the dentist is entirely justified in using roentgenography for diagnosis.

Johnson, Robert H.: The tetracyclines: A review of the literature — 1948 through 1963. *Journal of Oral Therapeutics and Pharmacology*, 1:190-217, 1964.

An extensive review of 174 references is presented. This represented the literature review portion of a thesis. The following headings served to group the references: The drugs themselves; tetracycline and bone; tetracycline and teeth; tetracycline and tumor diagnosis; tetracycline and growth; and tetracycline and dental caries.

Ewbank, Robert L., Standish, Miles, and Mitchell, D. F.: Hyalinized thrombi of the cheek: Report of a case. *J. Oral Surg.*, 22:456-459, 1964.

The diagnosis and treatment of this case is presented with five gross and microscopic illustrations. The etiology and prognosis are discussed.

Christen, Arden G.: Evaluation of scientific manuscripts. *North-West Dentistry*, 43:334-338, 1964.

The period during which a dental student could graduate without darkening the door of the library is drawing to a close. And yet, in this modern age many of our graduating students fail to appreciate, or are unable to read intelligently and evaluate the current literature of their profession. In addition, a common consensus among recent graduates seems to be that only those in an ivory tower can understand it anyway! It is time for members of the profession to realize that reading scientific literature does not come

naturally. Just as the student learns to perform complicated technical procedures, he must also be taught the importance and technique of evaluating current writings.

Healey, Harry J.: Restoration of the Lingual Access Opening Following Endodontic Therapy, *Journal of the Indiana State Dental Association*, December, 1964.

Discoloration of the crown of the tooth following endodontic therapy through a lingual opening can occur very readily unless simple precautions are taken. All of the canal filling materials—gutta-percha or silver points and the canal filling cement—must be removed completely from the pulp chamber. Especial attention must be given to the removal of discoloring materials from the region of the pulp horns. The placing of a cement lining of a shade compatible with the shade of the tooth followed by the use of a restorative material of equally agreeable shade and with non-discoloring tendencies will do much to minimize later crown discoloration.

An analysis of the materials available for the restoration of the lingual opening *can* result in a feeling of confusion and frustration. This is because a listing of the advantages of a particular material is seemingly counteracted by a listing of its disadvantages.

This publication discussed and analyzed in a comprehensive manner the advantages and disadvantages of materials frequently used for the restoration of the lingual treatment opening such as silicate cement, self-curing resin, gold foil, amalgam, powdered gold, and the gold inlay.

Patterson, S. E.: Endodontic Therapy: Use of a polyethylene tube and stint for drainage. *J. Am. Dent. A.* 69:710, 1964.

This unique procedure was described and the publication was augmented by

a case report. A polyethylene tubing incorporated in a stint was effective in draining an extensive, infected region of periapical pathosis. The left central and laterals—the affected teeth—were endodontically treated and the tubing supported by the stint was inserted into the area of pathosis. As the decrease in the lesion occurred indicating favorable healing process, the tube length was gradually decreased. Four years after initial treatment with the stint and tubing, remineralization of bone was evident.

Warren, E. B., Hansen, N. M., Swartz, M. L. and Phillips, R. W.: Effects of periodontal disease and of calculus solvents on microhardness of cementum. *J. Periodontology* 35:505, 1964.

The hardness of cementum of periodontally involved teeth and that of teeth free of involvement was compared. Also the hardness of cementum was measured before and after application calculus "softening" agents. No difference was detected in the Knoop hardness of the cementum of periodontally involved teeth and teeth free of involvement. When teeth were grouped according to age there appeared to be a tendency for the cementum to soften with age. Some of the calculus "softness" did affect hardness. Use of potassium bitartrate and sodium heramelaphosphate, both of which are chelating agents, resulted in gross loss of hardness and marked decalcification. An enzyme preparation, Viokase, did not measurably alter the hardness of the cementum.

Oldham, D. F., Swartz, M. L. and Phillips, R. W.: Retentive properties of dental cements. *J. Pros. Den.* 14:760, 1964.

Standardized cavity preparations were cut in the occlusal surface of molar teeth and cast gold inlays made for these preparations. The relative retentive properties of various luting agents were investi-

gated by measurement of the tensile force required to remove the inlays when seated with the various cements. Inlays cemented with zinc phosphate cement offered the greatest resistance to removal. The results obtained with a silico-phosphate cement were essentially the same but retention decreased when silicate cement was used. As a group inlays seated with zinc oxide-eugenol cements required less force to accomplish removal than did those cemented with the phosphoric acid cements. However, there was some difference from one product to another. One material designed for temporary cementation exhibited much less resistance to removal than did the other materials tested. The use of cavity varnishes did not appreciably alter the retentive properties of the various materials. However, retention was impaired somewhat by lining the cavity with suspensions of calcium hydroxide. When calcium hydroxide and zinc oxide-eugenol base materials were inserted in depressions in the cavity floor beneath inlays cemented with zinc phosphate cement retention was not affected.

Norman, R. D., Phillips, R. W., Swartz, M. L. and Frankiewicz, T.: The effect of particle size on the physical properties of zinc oxide-eugenol mixtures. *J. D. Res.* 43:252, 1964.

The effect of particle size of the zinc oxide powder on the setting time, compressive strength, solubility and disintegration, and the abrasion resistance of zinc oxide-eugenol cements was investigated. The particle sizes of the zinc oxides tested were 0.11, 0.18, 0.30, 0.93 and 8 microns. Mixes were tested both with and without additions of rosin and o-ethoxybenzoic acid. Mixes prepared with smaller particle sizes of zinc oxide set more rapidly than those prepared with larger sizes. The solubility in water was lower for specimens prepared from the smaller particle sizes. Neither particle size nor powder liquid ratio seemed to effect

strength. The addition of EBA and rosin did improve the strength of all mixtures, however, the increase was greatest with the 0.11 micron powder. Specimens prepared with the highest powder-liquid ratio and the smallest particle-size powder exhibited the greatest resistance to abrasion. Additives greatly improved the wearing qualities of all materials and in their presence the influence of particle size became negligible.

Schnell, R. J. and Phillips, R. W.: Resistivity of silver-tin amalgam. J. D. Res. 43:501, 1964.

Accompanying the solution of Ag_3Sn and mercury and the formation of new crystalline phases are changes in the physical properties of amalgam. One of these changes is the electrical resistivity. Resistivity of the setting amalgam and the effect of several variables were investigated with the hope of correlating resistivity with the phases formed. The resistance of amalgam specimens of known size and composition was measured at different time intervals and under several different conditions. Variables studied included temperature, mercury content, alloy composition, surface area, effect of elevated temperature, and the addition of mercury. The pure metals, silver and tin, as well as the various phases of Ag-Sn systems were mixed with mercury to form amalgams. An attempt was made to prepare specimens representing the phases, gamma-1, gamma-2 and beta-1. Following trituration of a silver-tin alloy with mercury, the resistivity decreased reaching a minimum between 6 hours and 5 days. The time period, rate and amount of decrease primarily depended upon the alloy composition, although residual mercury had some effect upon the curve. When pure silver was mixed with mercury the resistivity of the specimen increased with time. Tin-mercury specimens exhibited little change in resistivity. All of the

amalgams had a positive thermal coefficient of resistivity. Annealing of the specimens at $60^\circ - 65^\circ \text{C}$. produced a sharp increase in resistivity. Addition of mercury to hardened specimens reduced resistivity. Beta-1 specimens had a higher resistivity than gamma-2 specimens and gamma-2 a higher resistivity than gamma-1.

Scheerer, E. W., Swartz, M. L., Norman, R. D. and Phillips, R. W.: Residual monomer of restorative resins. J. D. Res. 43:672, 1964.

The residual monomer content of three autopolymerizing resins was investigated as related to time and monomer-polymer ratio. Two of the materials polymerized very rapidly with little or no change in residual monomer being demonstrated after the first hour. The third material polymerized more slowly with leveling of the monomer content occurring at one week. When the amount of monomer in the original mix was increased there was a subsequent rise in residual monomer.

Phillips, R. W.: Report of the committee on scientific investigation of the American Academy of Restorative Dentistry. J. Pros. Den. 14:554, 1964.

This is a review of the dental research conducted during the year of 1963. It is pointed out, however, that no committee could encompass all of the investigations that rightfully constitute the expanding parameters of dental research. This review includes research in dental caries and related areas, dental materials, periodontology, occlusion, instrumentation and pulp pathology.

Phillips, R. W.: Some current observations on restorative materials. Austral. D. J. 9:258, 1964.

Some of the important developments in the field of dental materials are dis-

cussed in order to acquaint the reader with the changing concepts in this area. The basic properties of the various materials are related to their clinical behavior and the increasing awareness of importance of the biological characteristics of materials is pointed out.

Phillips, R. W.: Some trends in dental materials. *The Amer. Dental Hygienists Assoc.* 38:127, 1964.

The problems associated with the behavior of dental materials in the oral cavity are both complex and intriguing. The constantly fluctuating pH and temperature, stresses as high as 30,000 psi. on the cusp of a molar tooth and optimum conditions for corrosion are but a few of the synergistic problems that have so far prevented the development of a perfect restorative material. However, the technology in the formulation of materials is changing rapidly. These changing concepts are discussed. It is important to the hygienist and to her patients that she remain conversant with this fluctuating field.

Phillips, R. W.: How and to what extent should research methods be presented in the undergraduate dental materials course? *J. Den. Ed.* 28:169, 1964.

An explanation of carefully selected research methods should form a segment of the lecture material for the undergraduate course content in dental materials. The methodology depicted should be practically oriented, and should not be unduly technical. The use of suitable illustrations is essential to an understanding of the research findings which govern the concepts and principles taught. Further examples will motivate the student to appreciate modern research technology and prepare him more adequately to evaluate the dental literature intelligently, and to reach his highest potential. The

impact of science and research on our daily lives is further discussed. However, the admonition is made that the individual should not be forgotten—in other words, science should not be glorified and the scientists forgotten.

Patterson, Samuel S., Shafer, Wm. G., and Healey, Harry J.: Periapical lesions associated with endodontically treated teeth. *J.A.D.A.* 68:191-194, 1964.

Periapical surgery was required for 501 endodontically treated teeth, although not necessarily because of failure of healing. This represented approximately 12 per cent of an overall series of 4,150 endodontically treated teeth; however, some of the patients in the large group have been treated too recently to be certain that apical surgery will not be necessary eventually.

Histologic evaluation of the 501 specimens revealed that 84 per cent were periapical granulomas, 14 per cent were periapical cysts and the remaining 2 per cent were other pathologic conditions, which is comparable to findings of other investigators. Obviously, the histologic nature of the large number of periapical lesions not included in this study because of spontaneous healing without surgery can never be ascertained since differentiation between granuloma and cyst cannot be made roentgenographically, and any surgical interference even for purposes of obtaining a small biopsy specimen, undoubtedly would alter the healing reaction.

The clinical and microscopic findings suggest that the presence of a cyst is unfavorable to healing without apical surgery. For this reason, the surgeon should suspect existence of a cyst if (1) the root canal continues to exude a serous fluid, (2) it is impossible to obtain a negative culture test of (3) the lesion emits a foul odor.

Refresher Courses and Symposia-1965-1966

The Postgraduate Committee of Indiana University School of Dentistry announces the following short courses and symposia will be offered in 1965-66. All short courses will be held in the Dental School Building, and symposia in the Indiana State Board of Health Building.

SYMPOSIA: (No registration and no fee required.)

October 20, 1965: Current Concepts in Operative Dentistry. Guest speaker, Dr. Charles Stebner, of Laramie, Wyoming.

May 11, 1955: The Relationship of Occlusion to Periodontics. This symposium will be presented by a guest lecturer and the Department of Periodontics staff. It will cover primarily the relationship and the role of occlusion and its adjustment in the patient with periodontal disease.

REFRESHER COURSES: (Enrollment limited.)

January 12, 19, 26 and February 2, 9, 16, 1966: Periodontics. The participants in this course will have lectures in the morning and will work on patients in the afternoon. The newer concepts of treatment will be demonstrated and the participants will also have the opportunity to use these methods. A guest lecturer will appear on one of the day's programs and will also offer a demonstration at that time. Fee \$150.00.

January 24, 25, 1966: The Orthodontic Management of the Cleft Lip and Palate Patient. Guest speaker, Dr. Sheldon Rosenstein of Northwestern University. Limited to orthodontists. Fee \$75.00.

February 7, 8, 9, 10, 11, 1966: Fixed and Removable Partial Prosthodontics and Ceramics. Presented by members of the Crown and Bridge and Partial Prosthodontics Department. Fee \$75.00.

April 18, 19, 20, 21, 22, 1966: Dental Ceramics. Presented by Crown and Bridge and Partial Prosthodontics Department. Fee \$75.00.

May 26, 27, 1966: New Concepts for Amalgam Restorations. Presented by Operative Department. Fee \$30.00.

June 8, 9, 10, 1966: The Physiology of Speech, Swallowing and Mastication. Dr. C. J. Burstone and guest speaker, Dr. Bernd Weinberg. This course is primarily designed for speech therapists. Other interested persons are welcome to enroll. Fee \$50.00.

June 20, 21, 22, 23, 24, 25, 1966: The Segmented Arch Technique. Limited to orthodontists. Fee \$300.00.

July 11, 12, 1966: Facial and Dental Development from Birth to Maturity. Dr. C. J. Burstone and Orthodontics Department Staff. Fee \$75.00.

July 23, 24, 1966: Modern Concepts of the Etiology, Prognosis and Treatment of Periodontal Disease. There will be a guest lecturer. Fee \$75.00.

More detailed information regarding these courses and symposia will be mailed nearer the course time. If more information is desired, please write the Dean, Indiana University School of Dentistry, 1121 West Michigan Street, Indianapolis, Indiana, 46202.

Annual Honors Program

The Honors Program for 1964 took place on Sunday, June 13, in the Student Union Building. Introductions were conducted by Dean Maynard K. Hine and a list of the 32 awards and the recipients is given.

Robert G. Botkin Memorial Award: (Partial Prosthodontics) Martin F. Kennedy

John G. Geller Memorial Award: (Research) David G. Bojrab

Ert J. Rogers Memorial Award: (Crown and Bridge) Ned B. VanRoekel

Glenn J. Pell Memorial Award: (Oral Surgery) Logan B. Boyd

American Society of Dentistry for Children, Certificate of Merit: Michael D. Payer

Indiana Society of Pedodontics: Richard E. Seib

American Academy of Dental Medicine, Certificate for Proficiency: Benoni W. Asdell

Indiana State Dental Hygienists Association, Proficiency Award; Peggy J. Malory

C. V. Mosby Awards: (Endodontics) Stephen Cohen, (Dental Materials) Wallace Chong, (Oral Anatomy) Robert T. Rocke, (Oral Pathology) Robert A. Zager, (Orthodontics) Jerry R. Hickman

American Academy of Periodontology: Ned B. Van Roekel

General Electric Award: Charalambos Blazoudakis

American Society of Periodontists: J. R. Hudson

Lactona Award: Robert A. Zager

Midwest Society of Periodontology Awards: Robert A. Zager, David L. Gauss

American Association of Oral Roentgenology: Jonathon S. Comer

American Academy of Gold Foil Operators: Martin F. Kennedy

Indiana State Dental Laboratory Association: (Partial Denture) Jack E. Showley, (Crown and Bridge) Joseph W. Shoemaker, (Complete Denture) R. L. Kim

What's Your Interpretation Contest in Radiology: (1st) David Avery, (2nd) Donald F. Richey, (3rd) Robert A. Zager

Extra-curricular Dental Activities Award: Benoni Asdell

International College of Dentists Award: Jack E. Showley

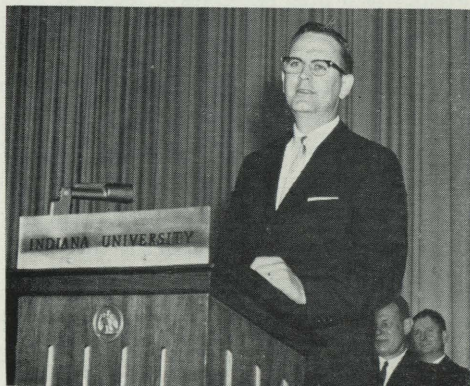
American College of Dentists Award: Michael D. Payer

Senior Essay Awards: (1st) Stephen Cohen, "The Replantation of Endodontically Treated Teeth" (2nd) Robert A. Zager, "The Effect of Dilantin Sodium on Collagen Generation in Scorbatic Guinea Pigs" (3rd) Jerry R. Hickman, "An Evaluation of a Cephalometric Dental and Skeletal Analysis" (4th) Jan L. Silagi, "Pain and Local Anesthesia"

Clinic Contest Winners: (1st) Jan Silagi, Senior, (2nd) Carl Andres and Dave Yater, Juniors

National Chapter of Alpha Omega Plaque: Martin F. Kennedy

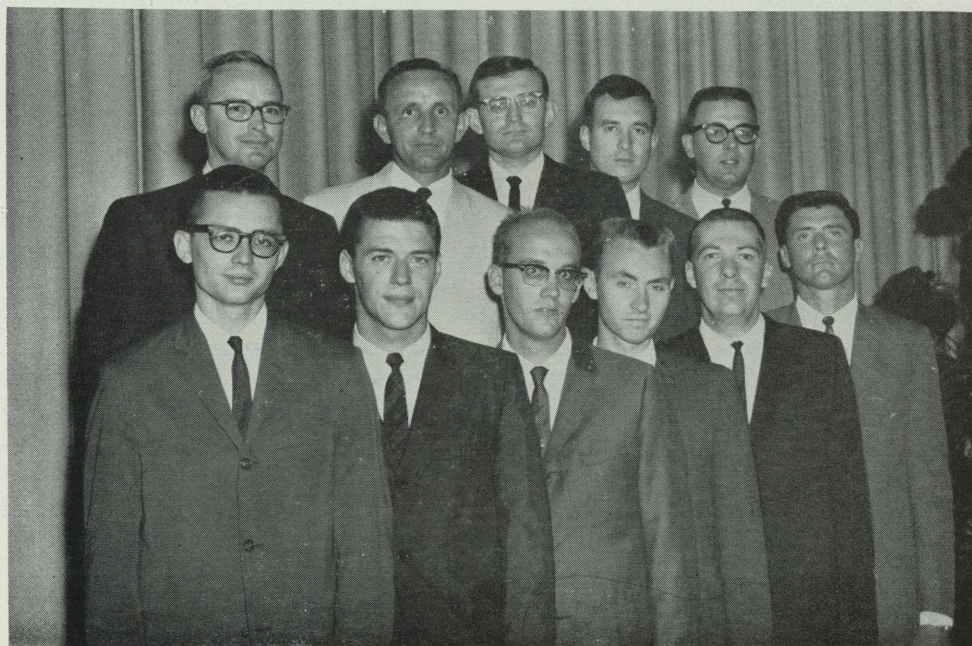
(Continued on page 61)



Benoni Asdell, Senior Class President



Dental Hygiene Graduates, 1965



New members of Omicron Kappa Upsilon. (Top row, left to right) Martin F. Kennedy, James H. Franklin, Jimmie Lee McGuire, Robert T. Rocke, Michael D. Payer, (Bottom row) Jerry R. Hickman, Ned B. Van Rockel, Gary D. Hamilton, Robert A. Zager, Bradley A. Baetsle, and Gordon L. Beeman.

Degrees Awarded Since Graduate Dental Program Inception

Recipients obtaining an advanced degree in the graduate program are listed, including theses titles and other pertinent data. These records of 150 graduates review the growth of this program over the past 17 years.

1. Stoner, Morris M.
M.S., 1947
Major: Orthodontics
Minor:
Cephalometric Study of Human Mandibular Proportions and Relationships in Normal Occlusion
2. Sexson, Julius C.
M.S., 1950
Major: Prosthetics
Minor:
Studies of the Effects of Abrasives on Acrylic Resins
3. Moorman, Wilbur
M.S., 1950
Major: Oral Pathology
Minor:
Diseases of the Temporomandibular Joint
4. McDonald, Ralph E.
M.S., 1951
Major: Dentistry
Minor: Microbiology
Human Saliva: A Study of the Rate of Flow and Viscosity and Its Relationship to Dental Caries
5. Lindquist, John T.
M.S., 1951
Major: Orthodontics
Minor:
A Study of the Intra-Arch Relationships in Normal Human Dentures
6. Frissell, Charles T.
M.S., 1952
Major: Oral Pathology
Minor:
Ameloblastoma
7. Kelley, Hudson G.
M.S., 1952
Major: Orthodontics
Minor:
A Study of the Developmental Changes in Length and Form in Human Lower Dental Arches
8. Vorhies, Jack M.
M.S., 1953
Major: Orthodontics
Minor:
A Cephalometric Evaluation of Variations of Angle Class I Malocclusions
9. Hapak, Francis M.
M.S., 1953
Major: Orthodontics
Minor:
A Cephalometric Appraisal of Denture and Skeletal Patterns in Normal Lateralis of Children with Excellent Deciduous Occlusion
11. Burstone, Charles J.
M.S., 1955
Major: Orthodontics
Minor:
The Integumental Profile: A Study of Acceptable and Malocclusion Faces
12. Phillips, Ralph W.
M.S., 1955
Major: Dentistry
Minor:
An Improved Method for Measuring the Co-efficient of Thermal Conductivity of Dental Cement and Values for Certain Materials and Human Dentin
13. Newman, Charles W.
M.S., 1955
Major: Oral Pathology
Minor:
Implantations
14. Bhatavadeka, V. N.
M.S.D., 1956

- Major: Periodontics
Minor: Pedodontics
Dental Calculus: Its Formation and a Method of Inhibition—In Vitro
15. Jennings, Richard
M.S.D., 1956
Major: Pedodontics
Minor: Oral Pathology
The Use of Controlled Heat as a Diagnostic and in Pulp Testing
16. Goldman, Samuel
M.S.D., 1956
Major: Orthodontics
Minor:
The Variations in Skeletal and Denture Pattern in Excellent Adult Facial Types: A Cephalometric Appraisal of Norma Lateralis
17. Standish, Samuel
M.S., 1956
Major: Oral Pathology
Minor: Periodontics
Early Cytologic and Histologic Changes in Experimentally Induced Tumors in the Sub-Maxillary Salivary Glands of Weanling and Albino Rats
18. Starr, Richard
M.S., 1956
Major: Orthodontics
Minor:
A Cephalometric Appraisal of Dento-facial Changes Following Insertion of Artificial Dentures
19. Humphreys, Kenneth
M.S.D., 1956
Major: Orthodontics
Minor:
Histologic Changes in the Periodontal Tissues Following the Use of Strong Orthodontic Forces
20. El-Tannir, Mohamed Daoud
M.S.D., 1957
Major: Crown & Bridge
Minor: Dental Materials
An Investigation of Tarnish of Certain Metallic Dental Restorative Materials
21. Jennings, Leander
M.S.D., 1957
Major: Orthodontics
Minor:
An Evaluation of the Changes Due to Growth From the Deciduous Denture to the Mixed Denture
22. Davila-Alonso H. M.
M.S.D., 1958
Major: Crown & Bridge
Minor: Dental Materials
Histological Findings in Pulp and Periodontal Tissues from Tooth Subject to Crown Prosthesis Procedures
23. Healey, Harry J.
M.S.D., 1958
Major: Operative Dentistry
Minor: Dental Materials
A Critical Analysis of the Antimicrobial Effectiveness of Dyclonine Hydrochloride (4-N-Butoxy-Beta-Piperidinopropiophenone Hydrochloride) in Infected Root Canals
24. 24. Denver, Paul I.
M.S.D., 1958
Major: Orthodontics
Minor: Oral Pathology
Heat Treatment of Orthodontic Steel Wire
25. Hamula, Warren
M.S.D., 1958
Major: Orthodontics
Minor: Oral Pathology
Normal Postural Changes of the Soft Tissue Facial Profile During Function
26. Klein, Arthur I.
M.S.D., 1958
Major: Pedodontics
Minor: Histology
The Association Between Deciduous Dentin Sclerosis and Calcium Hydroxide Methyl Cellulose Base Material
27. Lehman, David G.
M.S.D., 1958
Major: Orthodontics
Minor:
The Integumental Profile: A Study of Acceptable Adolescent Faces
28. Mangi, Sudarshan
M.S.D., 1958
Major: Operative Dentistry

- Minor: Dental Materials
Antibacterial Action of Certain Fluoride Containing Dental Restorative Materials
29. Rashmikanth, Himatlal Mehta
M.S.D., 1958
Major: Operative Dentistry
Minor: Dental Materials
An Investigation on the Effect of Various Separating Media Upon the Physical Properties of Stone
 30. Govind Balkrishna Shankwalker
M.S.D., 1958
Major: Periodontics
Minor: Anatomy
The Influence of Despeciated Calf Bone and Calcium Hydroxide on the Regeneration of Alveolar Bone in Dogs
 31. Valins, Martin J.
M.S.D., 1958
Major: Orthodontics
Minor: Pathology
Growth Behaviour of the Human Mandible: A Serial Study
 32. Alegria Campos Zita
M.S.D., 1958
Major: Pedodontics
Minor: Oral Pathology
A Study of the Effect of Dietary Habits and Refined Carbohydrate Intake on the Dental Caries Experience in Two Hundred Children
 33. Schnell, Richard
M.S., 1958
Major: Dental Materials
Minor: Anatomy
Resistivity of Silver-Tin Amalgams
 34. Schenker, Saul I.
M.S., 1958
Major: Operative Dentistry
Minor: Dental Materials
The Marginal Penetration of CA⁴⁵ Around Restorations, After 48 Hours, 30 and 60 Days
 35. Neuger, Sanford
M.S., 1959
Major: Orthodontics
Minor: Oral Pathology
Histologic Reaction of the Interosseous Suture Following Mechanical Separation of the Pre-Maxillary Bones of the Albino Rat
 36. Swartz, Marjorie
M.S., 1959
Major: Biochemistry
Minor: Dental Materials
In Vitro Studies on Marginal Leakage of Restorative Materials as Assessed by CA⁴⁵
 37. Abdul-Ghaffar, Hashim
M.S.D., 1959
Major: Preventive Dentistry
Minor: Dental Public Health
Pretreatment of Teeth with Sodium Fluoride Prior to Stannous Fluoride Applied to the Human
 38. Boyd, J. B., Jr.
M.S.D., 1959
Major: Crown & Bridge
Minor: Dental Materials
The Reactions of the Subcutaneous Connective Tissue of Wistar Rats to Implanted Dental Cements
 39. Fahim, Mohamed S.
M.S.D., 1959
Major: Oral Pathology
Minor: Periodontics
Histologic Study of Bone Repair in Lathyrus Albino Rats
 40. Garner, LaForrest
M.S.D., 1959
Major: Pedodontics
Minor: Oral Pathology
A Study of the Posture of the Tongue in Individuals with Normal Occlusion
 41. Gregory, Worth B., Jr.
M.S.D., 1959
Major: Endodontics
Minor: Oral Pathology
The Effect of Insulin on the Healing of Bone on Wounds in Albino Rats
 42. Groves, M. H., Jr.
M.S.D., 1959
Major: Orthodontics
Minor: Oral Pathology
Threshold Force Values for Anterior Retraction

43. Hall, Charles D.
M.S.D., Sept. 1959
Major: Periodontics
Minor: Oral Pathology
The Connective Tissue Reaction of
Implants of Certain Periodontal Post-
Operative Packs
44. Lawless, David T.
M.S.D., 1959
Major: Orthodontics
Minor: Oral Pathology
Load-Deflection Rates & Maximum
Deflection of Orthodontic Appliances
45. Nadal, Rafael
M.S.D., 1959
Major: Operative Dentistry
Minor: Dental Materials
A Clinical Investigation of the
Strength Requirements of Amalgam
& the Influence of Residual Mercury
on this Type of Restoration
46. Zawawi, Hala A. M.
M.S.D., 1959
Major: Pedodontics
Minor: Oral Pathology
Rat Connective Tissue Reactions to
Implants of Certain Pulp Capping
and Cavity Lining Materials
47. Baldwin, James J.
M.S.D., 1960
Major: Orthodontics
Minor: Dental Materials
A Study of Forces Exerted by the
Orthodontic Archwire & its Aux-
iliaries
48. Croxton, William L.
M.S.D., 1960
Major: Pedodontics
Minor: Oral Pathology
Child Behaviour and the Dental Ex-
perience
49. Desai, Navin Thakorlal
M.S.D., 1960
Major: Oral Diagnosis
Minor: Oral Pathology
Calcium Deficiency and Experimental
Periodontal Disease in Syrian Ham-
sters
50. Guthrie, Thomas J.
M.S.D., 1960
Major: Pedodontics
Minor: Oral Pathology
An Investigation of the Dental Pulp
Hemogram as a Diagnostic Aid for
Vital Pulp Therapy
51. Hussein, Hassan Fahmy
M.S.D., 1960
Major: Periodontics
Minor: Oral Diagnosis—Oral Medi-
cine
Effects of Experimental Hypervita-
minosis D on the Periodontium of the
Syrian Hamster: A Histologic Study
52. Kuhn, Robert J.
M.S.D., 1960
Major: Orthodontics
Minor: Oral Pathology
Force Values and Rate of Distal
Movement of the Mandibular 1st
Permanent Molar
53. Love, Dwain Rex
M.S.D., 1960
Major: Crown & Bridge
Minor: Dental Materials
The Effects of Certain Additive
Agents Upon the Physical Properties
of Zinc Oxide and Eugenol Mixtures
54. Menegale, Cid
M.S.D., 1960
Major: Operative Dentistry
Minor: Dental Materials
The Influence of Surface Texture of
the Cavity Walls on the Adaptation
of Restorative Materials and a Meth-
od for Quantitatively Measuring
Marginal Leakage
55. Morris, Estell E.
M.S., 1960
Major: Oral Pathology
Minor: Oral Surgery
The Effect of Stress and Desalivation
on the Healing of Extraction Wounds
in the Albino Rat
56. Shaheen, Hamed M.
M.S.D., 1960
Major: Crown & Bridge

- Minor: Dental Materials
Factors that Affect the Fitting and Physical Properties of Fixed Bridge
57. Tarplee, Robert E.
M.S.D., 1960
Major: Prosthetics
Minor: Dental Materials
Dimensional Stability of the Metal Denture Base as Compared with All-Resin Denture Base
58. Johnston, John F.
M.S.D., 1960
Major: Dental Materials
Minor: Crown & Bridge
A Study of the Effects of Colored Opaques on Porcelain Veneers Fused to Gold Castings
59. Hansen, Niles M., Jr.
M.S.D., 1960
Major: Periodontics
Minor: Oral Pathology
Observations of the Effects of High Frequency Sound Waves on the Skin and Oral Tissues of Rats
60. Gish, Charles W.
M.S.D., 1960
Major: Public Health
Minor: Preventive Dentistry
A New Approach to the Topical Application of Fluorides for the reduction of Dental Caries in Children
61. Swieterman, Robert
M.S.D., 1960
Major: Periodontics
Minor: Oral Pathology
The Effect of Highly Concentrated Solutions of Stannous Fluoride on Human Gingival Tissue
62. Callis, Robert
M.S.D., 1960
Major: Orthodontics
Minor: Histology
A Serial Cephalometric Study of Human Maxillary Growth
63. Kreager, John E.
M.S.D., 1960
Major: Orthodontics
Minor: Oral Anatomy
A Cephalometric Investigation of the Dento-Skeletal Morphology of Cl. II. Div. I. Malocclusions
64. Bell, S. Wallace
M.S.D., 1960
Major: Orthodontics
Minor: Anatomy
A Comparison of Maxillary Arch Form and Dento-skeletal Patterns in Japanese and Caucasian American Individuals Exhibiting Class II, Div. I Malocclusion
65. Fryar, Gene M.
M.S.D., 1960
Major: Orthodontics
Minor: Anatomy
Load Deflection Determinations of Specific Wire Configurations
66. Kasloff, Zack
M.S.D., 1960
Major: Crown & Bridge
Minor: Dental Materials
A Method for Demonstrating, in Vitro, Effects of Various Cutting Instruments on Tooth Structure
67. Ramadan, Abubakr E.
M.S.D., 1960
Major: Periodontics
Minor: Oral Pathology
Roentgenographic Studies on Experimentally Induced Bone Defects in the Mandible & the Maxillae
68. Mohammed, Yehia R.
M.S.D., 1960
Major: Operative Dentistry
Minor: Oral Histology
Operative Procedures & the Micro-Structure of the Marginal Tissue of the Pulp
69. Robinson, Robbie F.
M.S.D., 1960
Major: Orthodontics
Minor: Oral Anatomy
Changes in Lip Position Coincident with the Movement of Artificial Teeth
70. Sidhisunthorn, Pechara
M.S.D., 1960
Major: Crown & Bridge
Minor: Dental Materials

- A Study of the Factors that Affect the Color of the Teeth
71. Vieira, Dioracy Fonterrada
M.S.D., 1960
Major: Dental Materials
Minors: Operative Dentistry
Studies on Hardness & Abrasion Resistance of Acrylic Resins
 72. Patterson, Samuel
M.S.D., 1960
Major: Endodontics
Minor: Radiology
In Vivo and In Vitro Studies of the Effect of the Disodium Salt of Ethylene-Diamine Tetra-Acetate of Human Dentine & its Endodontic Implications
 73. Thanik, Kamal Dev
M.S.D., 1961
Major: Operative Dentistry
Minor: Oral Histology
Comparison of the Effect of Brocalcium, Gargenol & Oxyphosphate of Zinc Cement on Exposed Pulp
 74. Soni, Narendar N.
M.S.D., 1961
Major: Periodontics
Minor: Oral Pathology
A Microradiographic & X-Ray Densitometric Study of Cementum
 75. Hyde, Edward J.
M.S.D., 1961
Major: Preventive Dentistry
Minor: Public Health
A Study of the Occurrence of Pigmentation in Incipient & Advanced Carious Lesions of Teeth Exposed to Stannous Fluoride: Its Association with Caries Incidence & Oral Hygiene
 76. Carr, W. Kelley
M.S.D., 1961
Major: Orthodontics
Minor: Preventive Dentistry
A Longitudinal Cephalometric Study of Several Factors Involved in Overbite Correction & Recurrence in Class II (Angle) Malocclusions
 77. Cunningham, Donald
M.S.D., 1961
Major: Crown & Bridge
Minor: Dental Materials
A Study of the Comparative Accuracy of Elastic Impression Materials Utilizing Partial Denture Impressions
 78. Dykema, Roland W.
M.S.D., 1961
Major: Crown & Bridge
Minor: Dental Materials
A Study of the Effects of Certain Variables on the Comparative Strengths of Soldered & Cast Bridge Joints
 79. Herman, Stanley C.
M.S.D., 1961
Major: Pedodontics
Minor: Oral Pathology
Enamel Hypoplasia in Cerebral Palsied Children
 80. Ewbank, R. L.
M.S.D., 1961
Major: Oral Pathology
Minor: Radiology
The Effect of Nutritional Anemia on the Tensile Strength of Healing Soft Tissue & Bone Wounds in the Rat
 81. Buckley, Robert R., Jr.
M.S.D., 1961
Major: Pedodontics
Minor: Oral Pathology
An Electromyographic Study of the Orbicularis Muscle of Cerebral Palsied Spastic Hemiplegies
 82. Dachi, Stephen F.
M.S.D., 1961
Major: Oral Pathology
Minor: Biochemistry
A Study of the Effects of Promoting Agents on Experimental Cheek Pouch Carcinogenesis in the Hamster
 83. El Khashab, M. M.
M.S.D., 1961
Major: Oral Pathology
Minor: Oral Histology
The Effects of Sclerosing Solution on

- Connective Tissue & Experimental Wound Healing in the Rat
84. Gilmore, William
M.S.D., 1961
Major: Operative Dentistry
Minor: Dental Materials
A Clinical Study on the Marginal Leakage of Restorative Materials as Determined by Ca⁴⁵
 85. Mink, John R.
M.S.D., 1961
Major: Pedodontics
Minor: Oral Pathology
Relationship of Enamel Hypoplasia & Trauma in Repaired Cleft Lip and Palate
 86. Sloan, Donald G.
M.S.D., 1961
Major: Orthodontics
Minor: Oral Histology
Force Values for Maxillary Anterior Depression
 87. Higgason, James D.
M.S.D., 1961
Major: Periodontics
Minor: Oral Pathology
Topical & Systemic Effect of Several Fluoride Compounds on Albino Rats
 88. Zaki, Abd El-Moneim Emam
M.S.D., 1961
Major: Oral Histology
Minor: Oral Pathology
A Histologic Study of the Initial Effects of Force on the Periodontium of the Rat Molars
 89. Arefian, Daniel
M.S.D., 1962
Major: Endodontics
Minor: Oral Pathology
Vital Tissue Tolerance of Different Root Canal Medicaments
 90. Matlock, James F.
M.S.D., 1962
Major: Oral Pathology
Minor: Radiology
A Serial Study of the Effects of Intra-mandibular Implantation of 3-Methylcholanthrene in the Albino Rat
 91. O'Carroll, Francis M.
M.S.D., 1962
Major: Preventive Dentistry
Minor: Public Health
A Study of Stannous Fluoride Therapy: The Occurrence of Pigmentation Associated with It in a Fluoridated Area
 92. Stookey, George K.
M.S.D., 1962
Major: Biochemistry
Minor: Preventive Dentistry
Effect of Molybdenum on Fluoride Metabolism
 93. Thin, Vu Thi
M.S.D., 1962
Major: Crown & Bridge
Minor: Dental Materials
A Study of the Brinell Hardness of Metals Used in Conjunction with the Porcelain Fused to Metal Technic
 94. Rosenblum, Malcolm
M.S.D., 1962
Major: Orthodontics
Minor: Oral Pathology
A Cephalometric Skeletal and Dental Analysis of Children with Excellent Occlusions
 95. Mulligan, Thomas F.
M.S.D., 1962
Major: Orthodontics
Minor: Oral Pathology
A Torsional Analysis of Stainless Steel Orthodontic Wires
 96. Kulis, LeRoy Howard
M.S.D., 1962
Major: Orthodontics
Minor: Oral Pathology
The Relation Between Force Magnitude and the Center of Rotation in the Maxillary Incisor
 97. Guttuso, James
M.S.D., 1962
Major: Endodontics
Minor: Oral Pathology
A Histopathologic Study of Rat Connective Tissue Responses to Endodontic Materials

98. Elzay, Richard P.
M.S.D., 1962
Major: Oral Pathology
Minor: Periodontics
The Effects of Simultaneous Administration of Estrogen & Parathyroid Extract Upon Teeth, Periodontium & Long Bones of Growing Albino Mice
99. Wood, Robert D.
M.S.D., 1962
Major: Oral Diag.-Oral Med.
Minor: Oral Pathology
Induction of Pressure Bone Resorption in Animals Using Platinum-Cobalt Magnets
100. Boone, Malcolm E.
M.S.D., 1962
Major: Prosthetics
Minor: Periodontics
The Effect of a Denture Reline & a Denture Stabilizer upon the Biting Force of Complete Denture Wearers
101. Von Mohr, George
M.S.D., 1962
Major: Crown & Bridge
Minor: Dental Materials
A Study of Certain Variables Concerning Tarnish & Corrosion of Dental Gold Alloys
102. El-Kafrawy, A. H.
M.S.D., 1962
Major: Oral Diag.-Oral Med.
Minor: Oral Pathology
Secondary Dentin & Pulp Reactions to Silicate Cement in Teeth of Monkeys
103. O'Shaughnessy, Phillip E.
M.S.D., 1962
Major: Oral Diag.-Oral Med.
Minor: Periodontics
The Effect of Altering Physical Roentgenographic Factors on Patient Radiation Dose Levels
104. Beck, James O., Jr.
M.S.D., 1962
Major: Oral Pathology
Minor: Periodontics
Characterization of the BW108 Mouse Salivary Gland Tumor
105. Levihn, Henry L.
M.S.D., 1962
Major: Orthodontics
Minor: Oral Histology
Force Values and Rate of Movement in Closure of Space Between Maxillary Central Incisors
106. Basu, Prasanta K.
M.S.D., 1962
Major: Prosthetics
Minor: Oral Histology
A Technique for Contour Study of the Edentulous Maxillary Ridge
107. Diffley, James
M.S.D., 1962
Major: Endodontics
Minor: Oral Pathology
The Determination of the Moisture Content of Endodontically Treated Teeth and its Comparison with the Moisture Content of Normal Teeth
108. Nielsen, Revere A.
M.S.D., 1963
Major: Orthodontics
Minor: Radiology
Growth of the Face in the Presence of Cleft Lip and Cleft Palate—A Review
109. Fitz Roy, Donald C.
M.S.D., 1963
Major: Crown & Bridge
Minor: Dental Materials
A Study of Certain Physical Properties of Resins Used for Veneering Purposes
110. Baker, Bill R.
M.S.D., 1963
Major: Oral Diag.-Oral Med.
Minor: Oral Pathology
The Pathogenesis of Autogenous Skin Implantation Cysts
111. Rosenbaum, Charles H.
M.S.D., 1963
Major: Pedodontics
Minor: Oral Pathology
An evaluation of Occlusion of Cerebral Palsied Children
112. Lawson, Benjamin F.
M.S.D., 1963

- Major: Oral Diag.-Oral Med.
Minor: Oral Pathology
Pharmacologic Treatment of Painful Pulpitis; A Preliminary, Controlled Double Blind Study
113. Mercer, Vistor H.
M.S.D., 1963
Major: Preventive Dentistry
Minor: Public Health
Comparisons of Topical Applications of Stannous and Sodium Fluorides in Dental Caries Control
114. Bastawi, Aly Eloui
M.S.D., 1963
Major: Pedodontics
Minor: Oral Pathology
A Clinical Investigation of the General Disintegration and Strength Characteristics of Four Temporary Filling Materials
115. Davis, Walter R.
M.S.D., 1963
Major: Pedodontics
Minor: Oral Pathology
The Occlusion of Children as Related to Water Fluoride Concentration and Socioeconomic Status
116. El-Bahloul, Aly Nour
M.S.D., 1963
Major: Operative Dentistry
Minor: Dental Materials
An Investigation on the Effect of Polishing Procedures on the Distribution of Residual Mercury in Dental Amalgam
117. Hagman, Garrit C.
M.S.D., 1963
Major: Periodontics
Minor: Oral Pathology
A Comparison of Alveolar Bone Loss As Seen in Radiographs and as Measured During Periodontal Surgery
118. Henry, Patrick J.
M.S.D., 1963
Major: Crown & Bridge
Minor: Oral Pathology
An Investigation into the Changes Occurring in the Oral Mucosa Beneath Fixed Bridge Pontics
119. Kafalias, Michael C.
M.S.D., 1963
Major: Crown & Bridge
Minor: Dental Materials
An Investigation of Certain Properties of Selected Dental Resins
120. Lopez, Cesar F. Acevedo
M.S.D., 1963
Major: Oral Pathology
Minor: Oral Diag.-Oral Med.
The Effects of Parathyroid Hormone on the Generation of Connective Tissue
121. Marzouk, Mohamed
M.S.D., 1963
Major: Operative Dentistry
Minor: Oral Anatomy
Effect of Deep Cavity Preparation on the Tooth Pulp Using the Operating Microscope as Well as Serial Histologic Sections
122. Miller, Arthur S.
M.S.D., 1963
Major: Oral Pathology
Minor: Periodontics
Tissue Culture Studies of a Rat Salivary Gland Fibrosarcoma
123. Moore, Robert M.
M.S.D., 1963
Major: Pedodontics
Minor: Oral Pathology
A Study of the Effect of Water Fluoride Content and Socio-economic Status on the Occurrence of Gingivitis in School Children
124. Rubach, William G.
M.S.D., 1963
Major: Oral Diag.-Oral Med.
Minor: Periodontics
Interrelationships of Pulpal Pathoses and Periodontal Disease
125. Simon, Gabriel T.
M.S.D., 1963
Major: Prosthetics
Minor: Oral Pathology
A Method for Rendering Acrylic Resins Radiopaque and Testing Them for Tissue Toxicity
126. Spedding, Robert H.
M.S.D., 1963

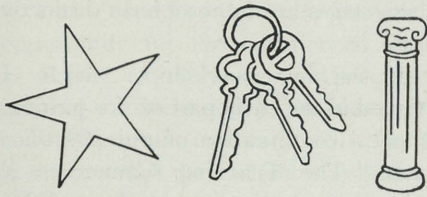
- Major: Pedodontics
Minor: Oral Pathology
The Effect of Formocresol and Calcium Hydroxide on the Dental Pulp of Rhesus Monkeys
127. Teteruck, Walter R.
M.S.D., 1963
Major: Crown & Bridge
Minor: Dental Materials
A Study of the Fit of Certain Dental Casting Alloys Using Different Investing Materials and Technics
128. Williams, John David
M.S.D., 1963
Major: Orthodontics
Minor: Oral Pathology
Adhesive Characteristics of Dental Cements With Some Observations on Etching
129. William, David Eugene
M.S.D., 1963
Major: Orthodontics
Minor: Oral Pathology
The Effect of Continuous Torquing Forces on Maxillary Central Incisors in Macaque Rhesus Monkeys
130. Atta, Alaa Eldin
M.S.D., 1964
Major: Orthodontics
Minor: Oral Pathology
Force Magnitude and Center of Rotation, Histologic Study in Rhesus Monkey
131. Black, Edwin R.
M.S.D., 1964
Major: Periodontics
Minor: Oral Pathology
A Study of the Effect of Ultrasonic Energy on the Activity of a Surface Active Quaternary Ammonium Germicide (alkyldemethylbenzyl-ammonium chloride)
132. Bowers, Donald Frederick
M.S.D., 1964
Major: Pedodontics
Minor: Oral Pathology
The Effect of Untimely Loss of Deciduous Molars on the Development and Eruption of the Premolars
133. Higginbotham, Thomas L.
M.S.D., 1964
Major: Endodontics
Minor: Oral Pathology
A Comparative Study of the Physical Properties of Root Canal Sealers
134. Hobo, Sumiya
M.S.D., 1964
Major: Crown & Bridge
Minor: Dental Materials
A Study of the Fit of Porcelain Inlays Using Different Technics
135. Hooker, Southern Palmer
M.S.D., 1964
Major: Oral Pathology
Minor: Oral Diag.-Oral Med.
Fluorescent Microscopy of Tetracycline Localization in Normal and Malignant Cells
136. Johnson, Robert Howard
M.S.D., 1964
Major: Oral Diag.-Oral Med.
Minor: Oral Pathology
The Effects of Tetracyclines on Teeth and Bones
137. McKnight, James Pope
M.S.D., 1964
Major: Pedodontics
Minor: Oral Pathology
The Effect of Zinc Oxide and Eugenol on Microorganisms in the Dental Pulp
138. Manne, Marshall Stanley
M.S.D., 1964
Major: Periodontics
Minor: Oral Pathology
Rat Connective Tissue Reaction to the Local Application and Systemic Administration of Dilantin Sodium
139. Norman, Richard Daviess
M.S.D., 1964
Major: Dental Materials
Minor: Radiology
Fluoride Uptake by Enamel From Certain Dental Materials
140. Ortega, Eduardo
M.S.D., 1964
Major: Dental Materials
Minor: Operative Dentistry

- An Appraisal of the Effects of Amalgamation Procedures on the Physical Properties of Various Commercial Alloys
141. Saad, Louis Joseph
M.S.D., 1964
Major: Periodontics
Minor: Oral Pathology
A Controlled Double-Blind Study of a Corticosteroid as a Constituent in Periodontal Packs
 142. Simpson, Theodore Harold, Jr.
M.S.D., 1964
Major: Oral Diag.-Oral Med.
Minor: Periodontics
The Effect of Sulfated Wheat Derivatives on Wound Healing
 143. Warren, Elbert Allen
M.S.D., 1964
Major: Periodontics
Minor: Oral Pathology
A Microhardness Study of Cementum in the Presence and Absence of Periodontal Disease and After Exposure to Chemical and Enzymatic Calculus Solvents
 144. Amos, David Thomas
M.S.D., Sept. 1964
Major: Public Health
Minor: Preventive Dentistry
Psychosomatics and Dentistry
 145. Campuzano, Fernando
M.S.D., Sept., 1964
Major: Crown & Bridge
Minor: Dental Materials
Dental Occlusion and Occlusal Rehabilitation: A Review of Some Major Concepts
 146. Christiansen, Richard Louis
M.S.D., Sept., 1964
Major: Orthodontics
Minor: Oral Pathology
Tooth Mobility and Instantaneous Centers of Rotation
 147. Fast, Thomas B.
M.S.D., Sept., 1964
Major: Oral Diag.-Oral Med.
Minor: Oral Pathology
The Experimental Production of Macroscopic Cysts by Autogenous Epithelial Implants
 148. Krasny, Robert M.
M.S.D., Sept., 1964
Major: Endodontics
Minor: Oral Pathology
The Incidence of Tetracycline Stained Teeth
 149. Lampros, Leo Nicholas
M.S.D., Sept., 1964
Major: Orthodontics
Minor: Oral Pathology
A Study of the Relationship of the Dental Arch to its Supporting Structure
 150. Toreskog, Sverker
M.S.D., Sept., 1964
Major: Crown & Bridge
Minor: Dental Materials
Properties of Die Materials: A Comparative Study

Dr. House Elected to Prosthetics Academy

Dr. James E. House of the Prosthetic Department of Indiana University School of Dentistry has been elected a member of the Academy of Denture Prosthetics. The Academy is composed of the outstanding leaders, teachers and investigators in prosthetic dentistry in the United States. Membership is limited to fifty members. Dr. House is the only representative from Indiana.

One of the original members who was most active in perfecting the organization was Dr. House's father, Dr. M. M. House (Indiana 1903). His father was chairman of the committee which wrote the original constitution and by-laws for the organization of this group. This is the first time in the 47 year history of this organization that the son of a member has ever been elected to membership.



Dr. Paul Starkey

Fall Workshop Retreat

On Sunday afternoon, September 12, 1965, most of the faculty of IUSD assembled at the Spring Mill Inn, Spring Mill State Park, Mitchell, Indiana. They remained there until noon on Wednesday the 15th to participate in their first workshop retreat. This program came about as a result of the activities of the Teaching Committee of IUSD, appointed by Dean Hine in the Fall of 1963. It occurred to me that the alumni of IUSD would be interested in hearing of this very important activity which has taken place within the faculty.

In 1963 the House of Delegates of the American Association of Dental Schools recommended that all dental schools constitute a committee on teaching. Generally speaking, one must admit that the majority of the members of dental school faculties have no formal pedagogic education. However, they have been exposed to many, many years of education themselves and are, therefore, familiar with teaching methods. Many have conscientiously and deliberately studied and learned the psychology of learning and teaching methods themselves. In addition, they are very familiar with the use of visual aids, as the accumulation of a tremendous resource of photographs and radiographs used by the faculty in teaching gives evidence. People from the IU School of Education have expressed favorable comments regarding the teaching methods and the caliber of examinations of the IUSD faculty.

Allan O. Pfinster, Dean of Wittenberg University, Springfield, Ohio, writes that any teacher education program is basically

designed to help the staff members improve in their performance as teachers. Innocent as this proposition sounds, he submits that it contains three basic and rather disturbing assumptions. These are, first, that something can indeed be done to improve teaching. There is by no means universal agreement on this matter. There are those who hold that teaching just comes naturally or it doesn't; that some people can teach and some can't. If we agree to this skeptical viewpoint, there is little value in a teaching education program. The second basic assumption, according to Pfinster, is that teaching, after all, is an important matter. And third, a program of teacher education carries the basic assumption that the improvement of teaching is *not* limited to the beginning teacher.

For the most part, dental educators have in the past planned for academic careers by simply increasing their competence in subject matter only, basing their teaching programs upon instinct and upon the imitation of former teachers. Most of us have not considered it necessary to have any real training in learning how to communicate knowledge and skills to dental students.

In the first year of the program of the Teaching Committee at IUSD, the emphasis has been to develop an interest on the part of the faculty and to solicit their cooperation in becoming receptive to the process of learning how to teach in addition to learning what to teach. We consider this process of preparation an important one. It is the first of four stages in creative problem-solving, defined by Patrick. The first stage is preparation,

the second, incubation, the third illumination, and finally, the stage of verification or revision.

During our first year of activity, we have held several faculty meetings. These were usually dinner meetings, held at the Union Building with attendance between 75 and 100. At our first meeting, the members of the Teaching Committee "confessed" that they, themselves, felt the need for improvement in their teaching. They asserted that, to them, teaching was exceedingly important, and they believed something could be done to improve it. They outlined for the faculty their proposed program for the coming years and were much encouraged by the response from the faculty.

At the second meeting a demonstration of all the different types of projection equipment which are available to the faculty was given: the overhead projector, a new twin lens 35 mm. projector, a synchronized tape-slide projector and several other types of equipment used in teaching. A short program was presented to illustrate the use of the synchronized tape-slide projector.

At the next meeting, a speaker discussed lecture techniques, and at the final meeting of the year, the faculty met for dinner and a representative from each of the basic sciences and basic technique departments presented a ten-minute review of their programs for undergraduate students. After these presentations, the faculty visited the Medical Science Building, inspecting the gross anatomy laboratory, biochemistry laboratories, the autopsy room, and the basic dental techniques laboratory where the new television teaching equipment was demonstrated. This, we feel, resulted in greater understanding between the clinical and basic science teachers and created a better rapport among them.

We feel that we have probably completed our preparation stage, are well into the incubation stage, and perhaps overlapping into the illumination stage. Obviously,

these stages are impossible to distinctly separate.

Our teaching workshop, which I mentioned in the early part of this writing, is simply a continuation of our in-service program. The Teaching Committee is acutely aware that we as members of this committee are not qualified to be the "teachers" in this in-service program, but that we must obtain the services of expert teacher educators in this endeavor. The theme of our workshop at Spring Mill this Fall was "Objectives." Robert F. Mager, Ph.D., a behavioral scientist, spoke to us for the better part of the day on Monday, discussing objectives. His sub-topics were: why care about objectives, the qualities of meaningful objectives, identifying terminal behavior, and stating the criteria. On Tuesday, the faculty broke up into groups of 8 to consider questions specifically assigned for each group. For example, one group considered "What are the objectives in teaching occlusion." Another discussed "What are the objectives in teaching professional attitudes." Tuesday afternoon was free for hiking, golfing, and general relaxation. On Wednesday morning the group leaders reported their discussions and recommendations. Sunday, Monday and Tuesday evenings, the faculty heard from the Dean of the IUSD dental school, a representative of I.U., and from the new provost of the Medical Center, respectively. Also, on Wednesday, Research Professor Ralph Phillips addressed the group on the subject of grantsmanship.

The Curriculum Committee and the Teaching Committee have been collaborating in an effort to develop some type of a pre-service teacher training program. This will probably be a program in which formal teacher training courses will be offered through the Graduate School, whereby a student may obtain a minor in dental education. This pre-service program will not only provide the opportunity for a graduate student interested in teaching

to learn pedagogy but also provide the opportunity for the experienced teacher, as a part of the in-service program, to monitor excellent courses in pedagogy.

IUSD alumni can very well take pride in the fact that their school is well-involved in this program.

Graduating Sons of Dentists

At graduation time each year, it has become traditional for me to do a short report on the year's graduates whose fathers are also dentists. This year there are only two, Dr. Patrick Shiego Ohara and Dr. Robert Thomas Rocke.

Dr. Ohara tells of his father:

"My father, George Kazus Ohara, was born in June, 1907, in Waipaku, Oahu, Hawaii, into a large family born to two poor Japanese immigrants who decided to seek their fortunes in Hawaii. Having had a hard early life, my father valued education, and though not an exceptionally talented student, he earned his Bachelor's and Master's degrees from Harvard University. From Harvard, he entered Northwestern Dental School and after one year transferred to Marquette in Wisconsin to take advantage of the 3-year dental program. He earned his D.D.S. from Marquette after 3 years and much hard work.

"Since I was a boy in junior high, I could only think of dentistry as a possible career. My father often told me that besides being financially rewarding, dentistry gave him the satisfaction of doing something helpful, and that he really liked his profession. To make sure I wasn't being overly influenced to take up dentistry, I tried electrical engineering in my first year of college at the University of California in Berkeley. After one semester I felt engineering was not my field, and, to my father's great joy, took up dentistry. I have been, to this date, extremely happy in my choice of dentistry and with my education at Indiana University School of Dentistry."

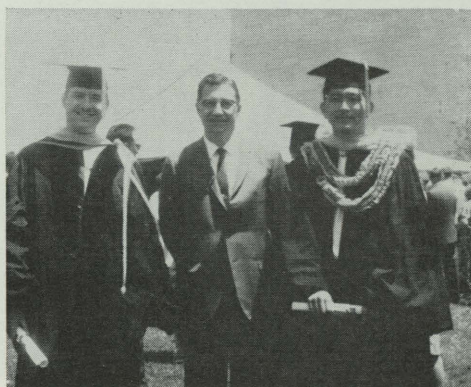
The Senior Dr. Ohara, practicing in Wahiwa, Hawaii, was regretfully unable to witness his son's commencement.

Dr. Robert T. Rocke, now a graduate student in the Orthodontics Department at St. Louis University, is a third generation dentist. His father and grandfather were both dentists. His grandfather graduated from the now extinct Chicago College of Dental Surgery in 1898. His father, Dr. Robert A. Rocke, graduated from Loyola University of New Orleans School of Dentistry in 1934 and presently practices orthodontics in Westville, Indiana. He confides that he had always planned to go into dentistry, never really seriously considering any other career. Although he doesn't feel his father made any particular effort to influence him to go into dentistry, he realizes that undoubtedly his being a dentist and being exposed to dentistry throughout his life steered him unswervingly in that direction. He feels sure that his strong interest in orthodontics was spawned by his father.

Steam, Alias WAF*, Released

In recent years it has become traditional for the graduating medics to let off a little steam as soon as their degrees have been conferred by the president of the univer-

* WAF—worry, anxiety, fear



From left to right: Dr. Robert T. Rocke, his father, Dr. Robert A. Rocke, and Dr. Patrick S. Ohara.

sity, during commencement. I recall the different years when they turned loose hundreds of gas-filled balloons, a number of pigeons, and balloons carrying paper skeletons. This year it seemed our dental graduates wanted to get into the act, and since their degrees are conferred just prior to the M.D.'s, they sort-of "stole the show." They turned loose about 90 gas-filled balloons with foot-high cardboard molars attached. It created something of a furor, but sent me from a humorous moment to one of sobering reflection. It was a beautiful day and the balloons made quite a colorful sight as they ascended to the southeast. Some rose rapidly and were soon at great heights. A few rose very slowly or haltingly and were barely able to transcend the tree tops. The majority rose in a large cluster and ascended slowly but steadily. As they rose at

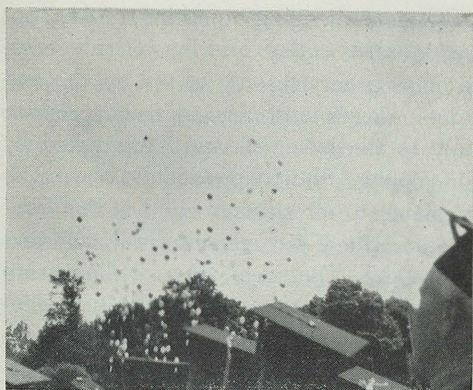
varying speeds to different heights, I couldn't help but personalize these balloons and associate them with the class, speculating that they might be representative of their owner's aspirations and abilities, and possibly his attainments.

Graduate Alumni Groups

With the rapidly increasing numbers of dentists completing our postgraduate and graduate programs at IUSD, it is inevitable and quite natural that graduate alumni groups will organize. The IUSD Advanced Partial Prosthodontics Society was the first group to organize. They held their first meeting early in 1962 and elected Dr. Steve Wittner of Rochester, New Hampshire, their first president. They held their first dinner meeting just prior to the annual meeting of the Chicago Dental Society in 1963 and met there



MASS 'EXTRACTION'—School of Dentistry graduates at Indiana University delighted the audience assembled for Monday's Commencement program by releasing balloons with paper teeth attached after their class was recognized by President Elvis J. Stahr. The new dentists had kept the balloons hidden under their robes until the cue to "extract" was given.



Disappearing released WAF

again in 1964 and 1965. Dr. John Johnston was their second president, and Dr. Donald FitzRoy of Howard University, Washington, D.C., their third. Dr. Hector Davila of San Juan, Puerto Rico is their present top official. Dr. Walter Teteruck of the University of Kentucky is their president-elect. A three-day seminar was held at IUSD June 28-30, the session closing with a dinner honoring Dr. John Johnston, retiring chairman of the Crown and Bridge Department, and Dr. Roland M. Dykema, his successor. Members and guests attending the dinner numbered about 225.

This fine group boasts members from 19 different countries and alumni of 15 dental schools in this country. They have had as many as 25 attending their annual meeting in Chicago. We wish them continued growth and success.

The second group to organize was the Graduate Orthodontic Alumni Group which met on May 29 and 30, 1964. President of the group at the first meeting was Doctor Gene Fryar and current president is Doctor Hudson Kelley.

Thirty-six alumni participated in the two-day essay program and the banquet which was held at the Meridian Hills Country Club.

The second biannual meeting of the Indiana Orthodontic Alumni Group will be held May 27 and 28, 1966. Guest

speaker will be Doctor Robert Isaacson from the University of Minnesota.

The third group to organize are the graduates and postgraduates of the Pedodontic Department. They met for the first time on the 29th of May, 1965, and had as their guest speaker, Dr. Wesley O. Young, Chairman of the Department of Community Dentistry, University of Kentucky College of Dentistry. Dr. William Shafer, Chairman of the Department of Pathology, IUSD, also spoke to the group. A dinner was held on Saturday evening in the Union Building, and the group was delightfully entertained by Miss Lorna Dallas, a young lady from the I.U. School of Music, who sang for them. On Memorial Day they attended the 500 Mile Race as a group. All seemed appreciative of the opportunity to meet again together, and they have decided to meet on an annual or biannual basis in the future. Thirty graduates and postgraduates returned for the meeting.

Dr. Liam Convery, Dublin, Ireland, who has just completed the two-year graduate program in pedodontics at IUSD this June and accepted a position on the faculty as instructor of pedodontics, taped Dr. Young's address to the pedodontics graduate group, and I prevailed upon him to write a summary report for me. From this report, I have prepared the following excerpt.

Doctor Young's subject was "What are the responsibilities of the pedodontist—to his patients, community and his school?" He chose to discuss responsibilities, not from the ethical, self-disciplinary, or merely legal points of view, but rather from the very top-level view—integrity. He gave an excellent summary of the contemporary and future problems facing the responsible professional man, and made quite a number of challenging statements, some of which are roughly paraphrased here.

The attempt to maintain integrity in dental practice is essentially a selfish one:

to preserve one's own profession and to enjoy the professional life. As it is possible for us to judge the standard of the quality of work which we do ourselves, and if we are doing work that we are aware is less than the quality we are capable of, we subconsciously destroy our own image of ourselves, as responsible professional people. If we have no respect for ourselves, then we can have no respect for the profession. We should be willing and able to meet the needs of patients and not merely demand that the patients meet our needs, that is in terms of professional satisfaction, efficiency of operation, and adequate income.

The challenging question, "Are not pedodontists today offering a truly comprehensive service only to the middle and upper classes and an emergency service only to the lower classes?" was asked by Dr. Young. Should pedodontic service be available to all children, and is this feasible in light of our current knowledge and resources? The ideal of providing complete dental service to all is going to receive evermore pressing emphasis in the future. Each individual dentist, in his attempt to expand his services to a greater segment of the population, must try to understand the individual patient and adapt the treatment plan somewhere along



Graduate Pedodontic Alumni Group

First row: Doctors Page, London, England; Mink, University of Kentucky; Spedding, University of Kentucky; Albert, Montreal, Canada; Herman, Indianapolis; R. Davis, Atlanta, Ga. Second row: Doctors Convey, Ireland; G. Carr, Lafayette, Indiana; Doyle, Lexington, Ky.; Hori, Hawaii; McDonald, Indianapolis.

Third row: Doctors Baker, Lexington, Ky.; Coccia, Detroit; R. Klein, Lafayette, Ind.; Landau, Youngstown, Ohio; Musselman, Indianapolis; McClure, Anderson, Ind.

Top Row: Doctors Horwitz, Raleigh, N.C.; Young, University of Kentucky; Bowers, Ohio State; McKnight, University of Tennessee; Roche, Indianapolis.

Not Shown: Doctors Starkey, B. Davis, Jinks, Kerkhove, A. Klein, Morgan, Erickson and Ching.

the line of the patient's needs, so that when it is complete he has done a true health service, has served a child, what he has done has been done well, and the child is better off because of it. We must then develop, as well as skill in radiographic and clinical diagnosis, an aptitude in social assessment of the patient to find out what the family's objectives and present resources are, and also to open up a channel of communication with the parent so that we can help him to participate in making treatment plan decisions. Thus, the treatment plan is made *with* the family rather than for the family. The difficulty of trying to teach this at an undergraduate level is that most dentists grow up, practice, and live in middle-class families. As such, they have no real knowledge of the background and living conditions of the lower classes. The best way to learn is to listen very carefully to the patients. A general expression of real personal concern

is, in the final analysis, the surest way to establish fruitful communication. The dental specialist, especially should be increasingly concerned with non-dental aspects of health care in his community. Everyone has some opportunity to serve and to provide leadership. Over the years, we as a profession have built up a reservoir of good will, but this must not just be drawn on. It should constantly be replenished. We must realize our vulnerability as a minority, votewise, in the community.

The major issue facing us today is the financing of dental care to provide more health care of higher quality to more people. The snag is, that if everybody begins to believe our message that good dentistry is important and asks for it, what are we going to do? This happened in New Zealand, and the dental profession could not produce. We must accept as a fact of
(Continued on page 63)



Graduate Orthodontic Alumni Group

Library

Mrs. Mabel Walker

ACQUISITIONS

Before listing a selected group of book purchases acquired during the past year, we wish to call attention to some rather unusual and certainly much appreciated gifts received.

In April 1965, Mrs. C. Kyle Hughes presented the library with the first edition, published in 1829, of Samuel S. Fitch's, "System of dental surgery." The first edition, as was the second edition, published in 1835, was composed of three parts, although published in one volume. The second edition has been a part of the library collection since its inception and bears the signature of the first dean, Dr. Phineas G. C. Hunt. The gift from Mrs. Hughes came from the library of her late father, Dr. Russell L. Swindler, a practicing dentist in Logansport, Indiana from 1904 to 1935 and a graduate of Indiana Dental College in 1904. This book, after cataloging, will be placed among the rare books.

In May 1965, Dr. Richard A. Misselhorn presented the Library with three volumes published by the Indiana Historical Society. He recognized them in a box of books being sold at auction and bought the complete box for 75 cents!

The most valuable is Eli Lilly's *PRE-HISTORIC ANTIQUITIES OF INDIANA* published by the Society in 1937. This has been out of print for many years and is quite a collector's item, and very valuable.

The volume entitled *WALAM OLUM OR RED SCORE, THE MIGRATION LEGEND OF THE LENNI LENAPE OR DELAWARE INDIANS* is a valuable history of the Delaware Indian Tribe, which is also out of print.

The third volume is Russo's *A BIBLIOGRAPHY OF JAMES WHITCOMB RILEY*.

Dr. Misselhorn is particularly interested in having the students and faculty aware of the kind of material which is available with membership in the Indiana Historical Society.

The books will be placed in the collection in the Browsing Room.

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Abstracts of nine Master's Theses written in the Graduate School of the Indiana University School of Dentistry follow.

PSYCHOSOMATICS AND DENTISTRY

David Thomas Amos, B.S., D.D.S.
1964

The psychosomatic concept in dentistry has been approached in a two-fold manner: a) the interrelationship of psychological factors and dental problems as reflected in the literature has been discussed, confirming the hypothesis that psychoso-

matic dentistry should be acknowledged by the dental profession as an integral part of the dental school curriculum; b) a second hypothesis, namely a possible correlation between dental decay and psychopathology has been tested as follows: 70 institutionalized mentally ill patients, 25 males and 45 females, were administered the MMPI (Minnesota Multiphasic Personality Inventory), ICL (Interpersonal Check List), and the following indices were determined: Russell's periodontal classification, the DMFT (Decayed, Missing and Filled Teeth) and the DMFS (Decayed, Missing and Filled Surfaces). Findings show the average number of teeth and tooth surfaces affected, using the DMFT and DMFS were found to be more for the institutionalized mentally ill than for the average non-institutionalized person. Findings also show that while the ICL did not correlate with the dental scores, some of the MMPI scores did. The MMPI, considered by psychologists a much more subtle instrument than the Interpersonal Check List, did yield some positive results in this study, thus supporting to some degree the hypothesis that there is a relationship between dental decay and psychopathology.

TOOTH MOBILITY AND INSTANTANEOUS CENTERS OF ROTATION

Richard Louis Christiansen
1964

Tooth mobility as it relates to orthodontics has not been thoroughly explored. The immediate aim of this project was to develop and test instrumentation to measure both tooth mobility and instantaneous centers of rotation under forces applied perpendicular to the tooth long axis.

Two identical dial micrometers were selected and modified to allow variability in range, calibration, and contact pressure. All forces were delivered by mechanical force meters.

A holding device was constructed to permit rigid positioning of a micrometer perpendicular to the long axis of any tooth in the arch and measure mobility at one point on the tooth. With an applied force of 500 gm., mobility measurements were made with the instrument on 44 teeth of six orthodontic patients. By repeating the analyses the instrument reproducibility was demonstrated. The pattern of tooth movement to applied force was explored and related to possible stress levels in tipping movements.

A second holding device allowed both micrometers to contact a dental extension which was fixed to a maxillary central incisor. An incisor from each of four preorthodontic and two postorthodontic patients was analyzed. Over 200 clinical centers of rotation were calculated from measurements of tooth movements at two points on the tooth's long axis. Results from the first three patients were erratic. The rotation centers of the last three patients generally remained at midroot and also near the theoretical center of the tooth for all forces applied over 50 gm.

More comprehensive studies on tooth mobility are recommended.

THE EXPERIMENTAL PRODUCTION OF MACROSCOPIC CYSTS BY AUTOGENOUS EPITHELIAL IMPLANTS

Thomas B. Fast
1964

The purpose was to develop a stand technique for the experimental production of macroscopic cysts by implantation of fixed amounts of epithelium (skin and oral mucosa) attached to gutta percha disc templates. These epithelial-disc implants were placed subcutaneously in both the monkey and the rat. Complete epithelial lined sacs surrounding the discs were found only in the skin-disc implants in the rat. This greater success is attributed to the fact that asepsis was more easily

adhered to in skin implant preparations and because the rat is naturally more resistant to infection than the monkey.

The cysts thus developed continued to enlarge by central accumulation of keratin and fluid and became more spherical in shape, with time. Strips of skin implanted into the medullary cavity of the monkey survived but failed to form sacs in the 109-day experimental period.

Attempts to demonstrate bacteria in the abscesses formed by the oral mucosal implants failed as did a pilot study using tritiated thymidine to study the epithelial activity of the implanted specimens.

A CLINICAL AND TELEVISION DENSITOMETRIC EVALUATION OF THE INDIRECT PULP CAPPING TECHNIQUE

Bernard Charles Kerkhove, Jr.
1964

The study was designed to provide information regarding the effectiveness of two materials—calcium hydroxide methylcellulose and zinc oxide-eugenol when used as a base material to cover residual carious dentin.

Eighty-eight mandibular deciduous and permanent teeth with deep carious lesions were treated by the indirect pulp capping procedure. Forty-three teeth were treated with zinc oxide-eugenol and 45 teeth were treated with calcium hydroxide methylcellulose. Four teeth were removed because of radiographic evidence of periapical pathosis. The remaining 84 teeth have been observed for periods of time up to 12 months and all have remained asymptomatic.

Postoperative periapical identical radiographs were taken at three, six and 12-month intervals utilizing the Bencow technique. The radiographs were assessed visually and with a television densitometric instrumentation in the evaluation of the dentin beneath the residual caries. Instrumentally, approximately 30 per cent of the teeth at three months, 40 per cent of the teeth at six months and 50 per cent of the teeth at 12 months, demonstrated

increased radiopacity of the dentin beneath the residual carious dentin. The amount of increased radiopacity was very slight, and for the most part, was only evident with the more sensitive television method. Radiographic evidence of dentinal changes was not observed routinely under either calcium hydroxide methylcellulose or zinc oxide-eugenol. The 42 teeth that were re-entered at the end of 12 months revealed caries arrestment, a sound pigmented dentin base, and no discernible pulp exposures.

THE INCIDENCE OF TETRACYCLINE STAINED TEETH

Robert M. Krasny
1964

Many reports have appeared in the literature, concerned with the ability of tetracycline antibiotics to stain teeth and bones. At the present time, however, there is little or no information regarding the incidence of tetracycline stained teeth in normal, healthy children. Hence, a study to determine the incidence of tetracycline stained teeth in second grade school children was concluded.

Twelve hundred and thirty-one second grade boys and girls were examined under incandescent and filtered ultraviolet light. Those children whose teeth fluoresced yellow, and exhibited clinical evidence of intrinsic staining, were chosen for further study.

Nineteen children (1.5 per cent) were classified in accordance with the clinical findings as having tetracycline stained teeth. Attempts were made to obtain case histories on all nineteen children. Case histories were obtained on eight girls and four boys of which four were deemed accurate.

The evidence accumulated verified that tetracyclines do stain human teeth, if the drug is administered during tooth development, and an indication as to the incidence of this phenomenon within second grade school children was established.

A STUDY OF THE RELATIONSHIP OF THE DENTAL ARCH TO ITS SUPPORTING STRUCTURE

Leo Nicholas Lampros
1964

Using 19 human caucasian skulls, a radiographic technique was developed to study the relationship of the dental arch to its supporting structure. All skulls were oriented to occlusal plane and X-rayed from a distance of five feet. The highest positive linear correlation recorded was between mandibular second molar width and apical base width in the second molar region. In the maxillary arch, high correlations were found to exist in both the cuspid and molar regions between dental arch width and apical base width. Correlations were lacking in the mandibular cuspid region between dental width and apical base width and between maxillary and mandibular dental and apical base depth.

The central tendency and dispersion was calculated, as well as the standard error of the mean and coefficient of variation for all groups of measurements which included arch widths, apical base widths, arch depths and apical base depths.

A generalized description of the position of the dentition to its supporting structure was presented; this indicated that the buccal segments in most cases showed less variation in their position over their supporting structure than the anterior segments.

Each dental arch was descriptively classified using the terms ovoid, square, tapering and combinations of these.

SOME EFFECTS OF ULTRASONICS ON CONNECTIVE TISSUE IN SPONGE IMPLANTED RATS

Ralph Edward Sand, Jr.
1964

Polyvinyl-formal sponges were implanted beneath the skin of young rats in order to study the effects both grossly and histologically of ultrasonic irradiation at a

frequency of 1MC and at intensities of 0.50 and 1.25 watts/cm.² on developing more mature connective tissue.

Severe leathery appearing skin lesions were noted in animals irradiated at 1.25 watts/cm.² Only a transient erythema developed in animals irradiated at 0.50 watts/cm.².

A marked proliferation of young connective tissue was observed in early implanted irradiated sponges. Once the connective tissue had matured no observable differences could be ascertained between irradiated and control sponges.

Prussian blue iron hemosiderin, PAS, and von Kossa stains were used on selected sections of early implanted irradiated sponges. Sections from both irradiated and control sections stained positive.

It was found that surface heat alone will enhance connective tissue proliferation, but not as rapidly as sponges irradiated.

It is concluded that tissue damage is proportional to intensity and that connective tissue proliferation into sponge implanted rats is enhanced by heat. At the frequency and intensities used, ultrasonics has no histologically observable effect upon mature connective tissue in rats so prepared. In addition, ultrasonics at this magnitude will not inhibit the deposition of calcium in young developing connective tissue of sponge implanted rats.

PROPERTIES OF DIE MATERIALS — A COMPARATIVE STUDY

Sverker Toreskog
1964

A comparative study of the pertinent physical properties of die materials was conducted. Included were several stones mixed with water as well as liquid hardeners, stone dies immersed in polystyrene, a silicone material, a silico-phosphate cement, two filled epoxy resins, a low fusing alloy, a heat-fused ceramic material, and silver and copperplated dies.

(Continued on page 63)

Alumni Notes

Mrs. Cleona Harvey

Another year has slipped quickly by and another class has been granted the D.D.S. degree. We don't know where the time goes, but we can tell you where the graduates have gone! You will find their names and addresses listed at the end of this column.

It is a real joy to be able to say "hello" to you all again through this column, and to tell you how much we enjoy hearing from you all.

As usual, the Recorder's Office is very busy, getting ready for another Freshman Class in September. It seems that we just admit students and graduate them. . . . time passes so quickly and we are so busy we don't really have time to get acquainted with them!

Once again I wish to make that time-worn plea: please write! We like to hear from each of you, and would enjoy publishing your letters in this column. And, so that you may know that we DO pass your letters on to your classmates, here is news from the

Class of 1904

Dr. Noble G. Wills, 717 Grand Avenue, Connersville, Indiana, wrote that he was getting married in June and would live at another location and wishes to sell his office.

Class of 1915

Dr. Earle W. Reynolds, 401 Eureka Street, S. E., Grand Rapids, Michigan, writes that at their 50th Anniversary Reunion in May, out of 23 living members of the class, 20 were present, the oldest being 80 years of age and still practicing; the youngest is 70 years of age.

Class of 1924

We are sorry to inform you of the death of Dr. M. Jackson Carper on April 26, 1965. He lived at 1130 National Road, Wheeling, West Virginia.

Class of 1926

Dr. Benjamin E. Berger, Peoples Bank Building, Room 510, McKeesport, Pennsylvania, writes,

"I enjoy reading the Alumni Bulletin as it helps keep me in contact with the doings of the School. I expect to be in Indianapolis for the State meeting and to attend our annual breakfast reunion meeting. . . . I do want to find time to visit the school. Please note my correct address."

From the Honolulu Star-Bulletin of Friday, January 22, 1965.

"A Honolulu export firm formed only in September has found that the market for reconditioned heavy equipment—its main export item—in the Far East is almost unlimited."

"Four officers of the company have just returned from a survey trip to see if there is a market for such equipment."

"Instead of just market information, they brought back orders for 12 complete factories using reconditioned equipment totaling \$8 million and additional orders for equipment totaling more than a million dollars."

"Those making the trip were:

"State Senator Mitsuyuki Kido, president of Universal American Export Corporation; Harold E. Peacock, executive vice-president; Dr. Howard K. Maesaka, vice-president, and Herbert Y. C. Choy, director."

This will explain to his many friends why Dr. H. K. Maesaka didn't get his usual greeting card off to them. His swing through the Orient was during the holidays and we were lucky as we received a beautiful greeting from Japan telling us of his new assignment.

Best wishes, Dr. Maesaka, and here is hoping you make a million or so!

Class of 1928

It is with regret that we inform you of the death of Dr. S. L. Bloomberg of Munster, Indiana, who passed away on July 7.

Class of 1937

Dr. Willard C. Stamper sends us a change of address to Stampers Landing, Patriot, Indiana 47038.

Class of 1955

Dr. Norman Glassman, 633 BayWay, Elizabeth, New Jersey, writes as follows:

"I haven't been able to write since my visit in May for our ten year reunion but now a few words. Our visit was wonderful, my wife and I enjoying every minute. The school has changed and yet seeing the faces of old friends, teachers and classmates, made it seem as if it were yesterday I was in your office bothering you. Dr. Borkowski was a gracious host and made me want to return to my old home in Indiana."

"Actually, I wanted you to include in the next Alumni Bulletin a short resume of our ten year dinner dance and also a note of thanks to Dean Hine. Dr. Hine stopped in at the affair before the members of the class got there, due to our giving him the incorrect time and our being at a cocktail party before coming to the affair. My classmates should feel privileged that the President-elect of the American Dental Association could take time from his busy schedule to join our festivities. There were forty-odd members

of the class of '55 at the affair. Bill Marshall and Gene Meyer came from Colorado; Infante and Hall from Florida; Kimche from Washington, D.C., Glassman from New Jersey, Williamson from Reno, Nevada, and others from around the state of Indiana. Floyd Hale and John Borkowski, Tom Quill and Damon Goode, prepared a wonderful evening and Borkowski and Glassman provided some personal jokes about our classmates. In all, it was a wonderful evening and we're looking forward to our fifteenth reunion and then the twenty-year reunion. Those who missed this one shouldn't miss another.

"My best to my friends in Indiana."

Class of 1957

We have received a change of address for Dr. Laurence A. Gray to 5219 Forrest Grove Drive, Fort Wayne, Indiana.

Class of 1958

Dr. Guy H. Panssen, 254 Crestwood Drive, Hobart, Indiana, recently sent us this change of address.

Class of 1961

Dr. Gerritt C. Hagman, 1938 Peachtree Road, N.W., Atlanta, Georgia (M.S.D. 1963) sent us a note saying,

"Hello from Dixie. I thought I might write a quick note to tell you that we still love Atlanta and couldn't be more pleased with my practice. This time of year in Atlanta (spring) is almost like a dream with all the flowering trees and bushes. It is really lovely."

"We enjoyed Dr. Hine's visit to our Hinman Dental Meeting. We had an excellent program and he topped it off. Ann and I enjoyed our brief visit with Dr. and Mrs. Hine."

Dr. James Vaught, USS Holland, AS 32, FPO, New York, New York, 09501, reports that he is going to Spain for two years.

Class of 1962

Dr. Stephen W. Stamper, 2727 North Atlantic Avenue, Daytona Beach, Florida, 32018, writes,

"I have recently missed my IUSD Alumni Bulletin. In order not to be counted among the lost sheep. I would like to submit our current address, and bring things up to date.

"After graduation, I worked two years with indigent children for the Health Department in Daytona Beach, Florida, after which I opened a private practice in Daytona Beach. We have been very happy here, and the practice is going well. My office is about a half a block from the beach.

"Sybil and the children are all very well. We now have three: Scott, 4; Stacy, 3; and Stewart, 6 months.

"We would like to invite anyone who might be visiting Florida for business or pleasure, to drop in any time."

Dr. Malcolm L. Rosenbloum (who received his MSD in 1962) announced the opening of his office at Suite 509, Sheffield Building, 1938 Peachtree Road, N.W., Atlanta, Georgia, 30309.

Class of 1963

We recently received a letter from Dr. Nelson L. Wolfe, with a change of address to P. O. Box 96, Alamosa, Colorado, 81101, saying

"I will be joining a general practice with two other dentists of approximately my age. . . .

"A couple of weeks ago we managed to take a short vacation trip through Virginia. Dick and Kay Elzay were kind enough to invite us over for an evening meal with them. Dick also took us on a brief tour of the dental school. We enjoyed our brief visit with them very much. From the reports that I get from some of the recent graduates of the Medical College of Virginia, Dr. Elzay has an excellent reputation and rapport with the students.

I will close this for now and get on with preparation for our move—as much as I dislike moving from place to place. I'm ready to settle down!

"We are hoping to see some of New England on our round-about-way to Colorado."

Class of 1964

Dr. Jorge H. Miyares, Florida State Hospital Division of Sunland Training Center, Gainesville, Florida, writes,

"After commencement I moved to Florida, but was not able to take the Board because of citizenship requirements. . . . So now I am working in the Florida State Hospital Division of Sunland Training Center as a dentist. I am really enjoying my work here, and also the lovely weather. Just think, our coldest day the temperature dropped to 30 degrees!!! The azaleas are in bloom already here in Gainesville, it seems like spring. On December 29 I was blessed with the arrival of my fourth son. Andrew and my wife Elena are both doing fine."

Dr. Johnston received an interesting letter from Dr. Michael F. O'Halloran, Sangley Point, Luzon, Philippines, in which he reports the following:

"Your letter caught up with me at Sangley Point, Luzon of the Philippines. I am presently at a Naval Air Station whose function it is to support the activities of a patrol squadron of anti-submarine amphibious aircraft. Approximately 300 men are deployed here six months at a time, so this gives me a good number of running mates. I'm sure you know what a special breed aviators are. . . . seems to me that they're as proud individuals as were ever born or made, assembled into one group, almost an ethnic group in themselves!

"Must say again, as I think I've told you already, that the knowledge I have is far superior to those I've come in contact with. They just did not have the advan-

tage afforded us from the quality and quantity of education we received. I'm truly grateful to all the staff for the fine all-around educational program put out of I.U.S.D.

"I consider myself fortunate to have the benefit of this fine experience and the variety of procedures we are able to perform here.

"Enclosed is a weekly paper depicting my lecture to Scouts. I have given two lectures since I've been here and on February 26 will lecture at the annual meeting of the Manila Dental Society."

Class of 1965

And as I promised, here are the addresses of the Class of 1965, as they left them with us:

Alzamora, Ricardo
418 E. 15th Street
Indianapolis, Indiana

Asdell, Benoni W.
P. O. Box
Loogootee, Indiana

Baetsle, Bradley A.
224 East Grove Street
Mishawaka, Indiana

Barnard, Kenneth E.
118 N. Lucretia Street
Oakland City, Indiana

Beeman, Gordon Lee
East 1st Street
Loogootee, Indiana

Blazoudakis, Charalambos
75 Skoufa Street
Athens, Greece

Bojrab, David George
9880 W. 10th Street
Indianapolis, Indiana

Boyd, Logan B.
c/o Mrs. Jane B. Abel
Box 257, French Lick, Indiana

Burns, Robert W.
R.R. 4, Spencer, Indiana

Cain, Dale O.
Box 85, Boston, Indiana

Carroll, Roger Allan
101 Maplebrook Drive
Brownsburg, Indiana

Chapin, C. Howard
3311 Manning Road
Indianapolis, Ind. 46208

Chentnik, Richard M.
408 North
Logansport, Indiana

Chong, Wallace F.
76 Ponahawai
Hilo, Hawaii

Clark, George R.
4020 Central Avenue
Indianapolis, Indiana

Cohen, Stephen
3900 Ford Road, Park City West
Philadelphia, Pennsylvania

Comer, Jonathan
R.R. 2, Box 444
Mooreville, Indiana

Daffron, Lowell M.
Road 46, Columbus, Indiana

Deady, Michael Joseph
Oral Surgery
Long Hospital

Deuschle, John H.
2401 Beechwood Drive
LaPorte, Indiana

Dyer, Larry M.
1910 Bayard Park Drive
Evansville, Indiana 47714

Epperson, Charles R.
4255 Norwaldo Avenue
Indianapolis, Indiana

Fontaine, Richard A.
c/o W. E. Fontaine
1111 Sunset Lane
W. Lafayette, Indiana

Fox, Ralph E.
1923 Wilkins
Indianapolis, Indiana

- Franklin, James H.
2426 E. Hedges
Fresno, California
- Fritts, James J.
821 East 9th Street
Rochester, Indiana
- Gauss, David Lee
5740 E. 10th Street
Indianapolis, Ind. 46219
- Girault, Joseph F.
4109 Monroe Street
Kansas City, Missouri 64130
- Graham, Larry L.
5039 W. Jackson Street
Indianapolis, Indiana
- Griffin, Robert Sherman
827 Plaza Drive
Evansville, Ind. 47715
- Hamilton, Garry D.
Box 44-A
Brownsburg, Indiana
- Harper, Ronnie Dean
Box 52
Westphalia, Indiana
- Hickman, Jerry Richard
c/o I.U.S.D.
- Higgins, D. Keith
1253 $\frac{1}{2}$ S. Jackson Street
Frankfort, Indiana
- Hoerath, John C.
5249 Olentangy
Dayton, Ohio
- Hudson, James R.
5402 Tara Court North, Apt. B
Indianapolis, Indiana
- Hudson, Joseph T.
1707 N. Sharon Avenue
Indianapolis, Indiana 46222
- Kotes, Charles
528 Maitland Avenue
W. Englewood, New Jersey
- Kennedy, Martin F.
Virginia Avenue
Salem, Indiana
- Kim, Raymond
4029 Palmwood Drive
Los Angeles 8, California
- King, Michael
1225 W. Sycamore
Kokomo, Indiana
- Knapp, Joel
Army Base or
c/o Mr. Joseph Knapp
4911 Arthur Street
Gary, Indiana
- Knight, John Douglas
1445 S. 10th Street
Terre Haute, Indiana
- Largura, Aldo
3600 Adams
Gary, Indiana
- Lasbury, Richard
Appolo Corp
Kokomo, Indiana
- Lauzarda, Esther
1978 N.W. 22 Court
Miami, Florida
- Lee, James L.
1223 S. Congress
Ypsilanti, Michigan
- Loft, Stuart R.
c/o J. Loft
2045 Calais Drive
Miami Beach, Florida
- Lopp, Vance F.
951 East John Street
Nappanee, Indiana
- Martin, Richard Arnold
5916 E. 16th Street
Speedway, Indiana
- Mayhill, Ronald G.
South Bank Apt. 209-A
Fort Lauderdale, Florida

McGuire, Jimmie Lee
505 West Drive—Woodruff Place
Indianapolis, Indiana

McMurray, Thomas David
826 Evernia
West Palm Beach, Florida

Miller, David Lee
4743 Brookville Road
Indianapolis, Indiana

Myers, Charles Warren
310 N. Newlin Street
Veedersburg, Indiana

Myers, David W.
310 N. Newlin Street
Veedersburg, Indiana

Nayan, Teofilo M.
205 N. Leamington
Chicago, Illinois

Ohara, Patrick S.
1626 Royal Palm Drive
Wahiawa, Oahu, Hawaii

Payer, Michael
c/o Earl Evans
612 Midland Avenue
Muscle Shoals, Alabama

Quealy, Richard D.
142 N. Holiday Drive
South Bend, Indiana

Reimer, John C.
c/o Nelson Reimer
R.R. 1, Box 339
Richmond, Indiana

Reisinger, V. Eugene
201 South Ash
Hobart, Indiana

Reith, Harry J.
205 East Concord Lane
Fort Wayne, Indiana 46806

Renwald, Daniel C.
1038 170th Place
Hammond, Indiana

Richey, Donald Franklin
901 Sheffield Drive
Evansville, Indiana

Roberts, Donald C.
6725 Woodmar Avenue
Hammond, Indiana

Rocke, R. Thomas
St. Louis University School of Dentistry
St. Louis, Missouri

Ryan, Larry D.
R.R. 1
Warren, Indiana

Sanders, Sybil
R.R. 1
Patoka, Indiana 47566

Sawin, John W.
Professional Arts Building
2600 Sandcrest Boulevard
Columbus, Indiana

Schymik, John B.
450 South Weinbach
Evansville, Indiana

Seib, Richard E.
440 N. Winona No. 315
Indianapolis, Indiana

Sering, Dale L.
1511 Norriston Drive
Indianapolis, Indiana

Shoemaker, Joseph W.
5851 Ravine Road
Indianapolis, Indiana 46220

Showley, Jack Ellis
1527 Michigan Avenue
LaPorte, Indiana

Silagi, Jan L.
3303 Ashley Lane
Indianapolis, Indiana

Springer, J. Thomas
1665 28th Avenue
Vero Beach, Florida

Stedman, William J.
30 N. Cross Street
Sullivan, Indiana

Strohaver, Robert A.
1300 W. High Street
Piqua, Ohio

Swantko, Rodney Paul
7040 Forest Avenue
Hammond, Indiana

Taylor, Ray N.
2001 Harrison
Gary, Indiana

Ternisky, Michael J.
6 Newton Street
Manchester, Indiana

Thoman, Dalton Matthew
7220 Madison Ave. Apt. A-27
Indianapolis, Indiana

Tiffany, George A.
4038 N. Illinois
Indianapolis, Indiana

Tropmann, William
357 West Butler Street
Fort Wayne, Indiana

Urbanski, Jr., Ted J.
4960 Virginia Street
Gary, Indiana

Van Roekel, Ned
615-B North Tibbs Avenue
Indianapolis, Indiana

White, Alan B.
R. R. 1, Box 236
Westfield, Indiana

Willits, David
Chanute Air Force Base
Chanute, Illinois

Zager, Robert
6313 Tara Court
Indianapolis, Indiana

Dental Hygiene

A. Rebekah Fisk

Probably the campus of the Indiana University Medical Center never looked worse—all for the cause of progress. The new look is piles and piles of dirt. In some places holes are being dug for new buildings in others lots are being leveled for parking. A new wing will be added across the back of the School of Dentistry; Riley Hospital will have a new addition in the front and there will be a large new hospital east of the Medical School. Marion County General Hospital is also in the process of expansion. We are looking forward to having the use of the new facilities for our dental hygiene classes.

On June 14th, thirty-three dental hygienists received their Dental Hygiene Certificate and are associated in practice as follows:

INDIANAPOLIS AND VICINITY:

Martha Jo Coleman—Dr. John H. Stone
and Dr. Russell W. James

Mila Ann Dailey—Dr. R. W. Barnett
Judith Dolton—Dr. Robert E. All and Dr.
George Simpson

Julia A. Heaton—Dr. James M. Sterrett
Richetta Holland—Dr. John C. Brown
Sharla R. Klahr—Dr. James F. Calland
Nancy L. McGaughey—Dr. James R.
Roche

Linda Kay Meadows—Dr. Lee E. Hill
Lindsay T. Mitchell—Dr. Niles M. Han-
sen and Dr. Richard Reynolds

Janice Potter—Dr. LaForrest D. Garner,
Dr. Eugene Taylor and Dr. Lehman D.
Adams, Jr.

Peggy Louise Smith—Dr. Marvin G.
Schmidt

Kathye Ann Ziegler—Dr. Donald E. Arens

BLOOMINGTON:

Merilynn B. Williams—Dr. James E. Rhue
and Dr. Joseph E. Devich
Karen L. Wright—Dr. Richard Darby

LAFAYETTE AND VICINITY:

Marilyn K. Brown—Dr. William L. Croxton

Sue E. Pfeifer—Dr. Carl W. Bollman, Frankfort

SOUTH BEND AND VICINITY:

Gail T. Gordon—Dr. Ronald C. Gardner

Anita J. Hubbard—Dr. Charles H. Rosenbaum, South Bend and Dr. Ralph E. Brennan, Mishawaka

FORT WAYNE:

Marsha A. Keith—Dr. Ralph Merkle and Dr. George Ertzinger

EVANSVILLE:

Vicky Sue Walker—Dr. Maurice J. Keller

Those leaving the state are:

Betty Louise Bush—Washington, D.C.

M. Rosemary Edge—Denver, Colorado

Peggy Jean Mallory—Springfield, Ohio

Martha Ann McClure—Madison, Wisconsin

Sandra McWilliams—Lexington, Kentucky

Sandra Y. Schwartz—Louisville, Kentucky

Katherine D. Wade—Niles, Michigan

Karin S. Warriner—Victoria, Texas

Caroline V. Brown, Leni F. Zucker and Sandra Y. Schwartz will return to school in the fall to complete degree requirements. Caroline V. Brown will attend Indiana University, Leni F. Zucker will attend Ohio State University and Sandra Y. Schwartz the University of Louisville.

The Bachelor of Science in Public Health Dental Hygiene was conferred on: Lorna J. Bonnet, DH-'62; Kathleen Heath Bryn, DH-'64; Sandrajean Henderson, DH-'64; Joann Campbell Leetman, DH-'64; Marilou Monfort, DH-'64; Paula Lou Weaver, DH-'63; Linda L. Fletcher, DH-So. Ill. '63.

On completion of requirements Shermie L. Schafer, DH-'63 and Vivian K. Walton,

DH-'64 will receive their degrees in September.

Karen Michener, Carolyn Humpheries, Virginia Cox and Gay Gossard who received their dental hygiene certificate in 1964, will return in the Fall to complete degree requirements.

Miss Anne Ackerman will return in September after a one year leave of absence which she took to pursue graduate work at the University of Michigan. We will be glad to have our "Annie" back.

HONORS PROGRAM

(Continued from page 24)

Omicron Kappa Upsilon, Anatomy Department Freshman Student Accomplishment: Ronald Duch

Sigma Phi Alpha Honorary Sorority: Sandra Y. Swartz, Martha Jo Coleman, Sharla R. Klahr

Interfraternity Council Plaque for Scholarship: (1st) Psi Omega, (2nd) Delta Sigma Delta

Omicron Kappa Upsilon, Outstanding Freshman Award: Melvin Charles Moll, Jr.

Omicron Kappa Upsilon Certificates: Bradley A. Baetsle, Gordon L. Beeman, James H. Franklin, Gary D. Hamilton, Jerry R. Hickman, Martin F. Kennedy, Jimmie Lee McGuire, Michael D. Payer, Robert T. Rocke, Ned B. VanRoekel, Robert A. Zager

Fourragers: High Honors, Martin F. Kennedy, Robert A. Zager

Honors, Ned B. VanRoekel, James H. Franklin, Gordon L. Beeman, Bradley A. Baetsle, Robert T. Rocke, Jerry R. Hickman, Michael D. Payer, Jimmie Lee McGuire, Garry D. Hamilton

Dental Hygienists with Honors, Sandra Y. Swartz, Martha Jo Coleman, Carolyn Brown

Class and Fraternity News

JUNIOR CLASS

After two years of hard and sometimes frustrating preparation, a dream came true for a junior class. With mixed emotions of anxiety and fear the class set forth into unknown and exciting experiences. After the fear an anxiety turned to confidence and experience the road to graduation no longer seemed an impossible task.

The junior class chose these members as their officers for the year: James Fleck, President; Lloyd Hagedorn, Vice-President; Abe Ochstein, Secretary and William Johnson, Treasurer.

To take away from the burdens of study the class held its annual stag in November. As usual the affair was a success with most of the class and some of the faculty participating. Sports-wise the basketball team did very well finishing high in the final standings.

With the close of the first semester and the beginning of the second semester most members of the class vowed to better themselves academically now that the efforts of combining academics and clinic were no longer new.

With a year of clinical dentistry behind, the class finds itself in a positive frame of mind and one year closer to graduation.

Abraham J. Ochstein

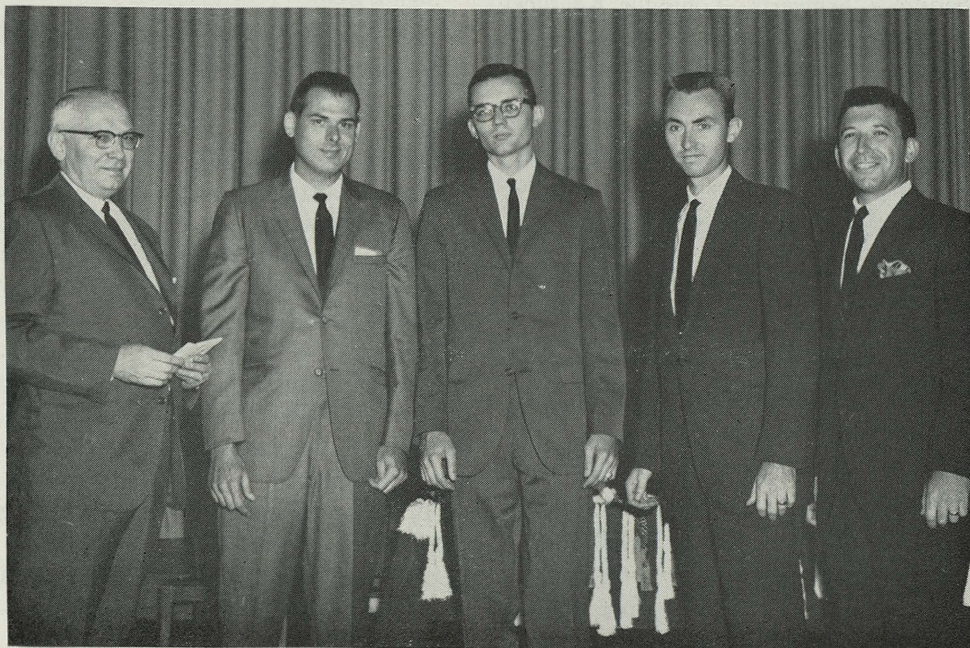
ALPHA OMEGA

The Alpha Omega fraternity ended a very successful year by holding their annual Senior Farewell Banquet at the Sheraton Lincoln Hotel on May 15, 1965. Dr. Samuels the national Alpha Omega president was the guest of honor. Dean Hine, our annual honored guest, and Dr. McDonald were also present.

The Alpha Omega Award was presented to Dr. John F. Johnston for his outstanding services to the field of dentistry. Steve Cohen was given the Senior Award and the officers for the following year were installed. Dave Goldstein was elected president, Abraham Ochstein secretary and Harold Smith treasurer.

The fraternity gained five new members for the year and only lost one graduating senior.

Abraham J. Ochstein



Dean Hine presents Senior Essay Awards to Jan Silagi (4th prize), Jerry Hickman (3rd prize), Robert Zager (2nd prize), and Stephen Cohen (1st prize).

LIBRARY

(Continued from page 53)

The properties tested were dimensional change, hardness, resistance to abrasion, detail duplication, and compatibility with four elastic impression materials. Results indicated no one material to be superior to the others in all respects. The improved stones were superior from a dimensional standpoint; however, the abrasion resistance was low. All dies were undersized, with the exception of the ones made from stone or the low-fusing alloy. It was not always possible to predict the abrasion resistance of a die material on the basis of hardness. Therefore, it is recommended that an abrasion test, simulating the conditions of wear, be employed whenever possible. Dies made from the heat-fused material, silico-phosphate, one epoxy resin, and by electro-deposition, exhibited superior abrasion properties. The surface of the plated dies and dies made from the silico-phosphate cement exhibited excellent detail duplication. Good detail duplication was obtained with stone and the heat-fused material. The epoxy resins were compatible only with Permlastic.

DENTAL OCCLUSION AND OCCLUSAL REHABILITATION. A REVIEW OF SOME MAJOR CONCEPTS

Fernando Campuzano Zambrano
1964

Different theories and philosophies concerning the science of gnathology are summarized and analyzed.

The occlusion concepts of Stallard and Stuart, D'Amico, Granger, De Pietro, Page, Schuyler, Ramfjord, Pankey and Mann, were presented.

Topics of interest as, the role of occlusion in periodontal disease, and in temporomandibular disturbances, were exposed and analyzed.

Also studied is the role of interocclusal appliances and devices constructed temporarily to relieve symptoms of malocclusion.

Finally, some articulators are subjected to a critical analysis as a practical guide to their usefulness.

The author concludes that all the proposed philosophies have a place in the application to the practice of dentistry. The author, however, favors those concepts of Stallard and Stuart.

STARKEY'S COLUMN

(Continued from page 43)

life, that people of all classes have developed an attitude that they have a right to good health care. And even if they can't afford it, then someone else should.

Doctor Young then discussed dental service corporations, and some of the presently rapidly expanding arrangements for the provision of public care. He pointed out the urgent need for a study of what is the best type of limited treatment that can be carried on a large-scale basis with limited resources. Specialists have a particular responsibility to exercise informed leadership in the profession, viewing both the scientific evidence and the world around us objectively and to show intelligent judgment. Dentists in general have been classified sociologically as upwardly mobile persons. And some, a minority, react to today's situation in an unfortunately predictable fashion; that is, concerned that what they achieved will be taken away from them, rather than adapting to the forces of change around them. Essentially, what is good for the public, is in the long run, good for the profession; and if it is good for the profession, it is, in the long run, good for us as individuals. We must look very carefully at those who will follow us in the profession and play a personal part in encouraging recruitment of high quality people, especially at the high school level. The day we graduate from dental school, our debt in cash to society is far greater than to our banker or father-in-law.

Alumni Visit Dental School

Since the May meeting of the Indiana State Dental Association, the following alumni have dropped in the Dean's Office to sign our Alumni Register:

Class of 1934—

Dr. Seyman L. Barr, 627 Salem Ave.,
Dayton, Ohio

Class of 1945—

Dr. Hugh S. Deale, 718 West Columbia
Street, Oakland City, Indiana

Hubert A. Seller, 504 Broadway, Gary,
Indiana

Class of 1947—

Dr. Richard S. Johns, 7847 Calumet,
Munster, Indiana

Class of 1950—

Dr. James H. Dirlam, Lt. Col., USAF,
DC, Wilford Hall, USAF Hosp., Texas

Class of 1955—

Dr. Robert A. Day, 2760 25th, Colum-
bus, Indiana

Dr. Norman Glassman, 633 Bayway,
Elizabeth, New Jersey

Dr. Lowell A. Williamson, 2215 Watt
Street, Reno, Nevada

Dr. Werner M. Bleifuss and Dr. Ursula
Bleifuss, Lathrop Village, Michigan

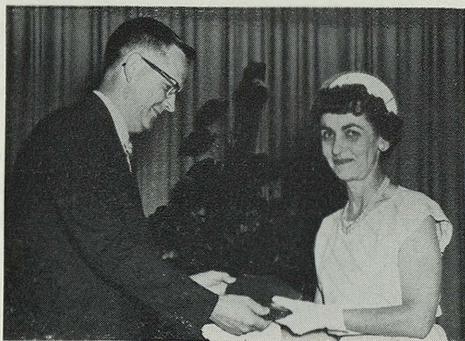
Class of 1961—

Dr. Clifford Maesaka, 3900 Sibley Mem.
Hwy., St. Paul, Minn.

Dr. James E. Vaught, USS Holland AS
32, FPO, New York 09501

Class of 1963—

Dr. Richard C. Osburn, 7B Boatner
Dr., Eglin AFB, Fla.



Benoni Asdell, Senior Class President, presents Mrs. Maria Edwards a plaque for being the most helpful auxiliary to the 1965 Class.

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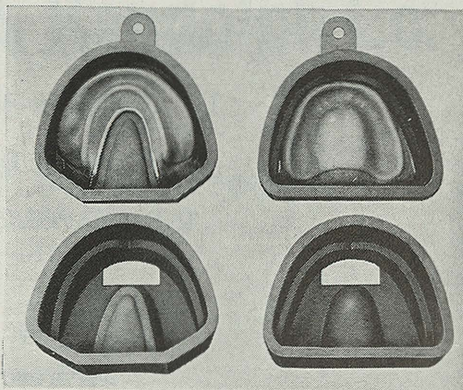
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