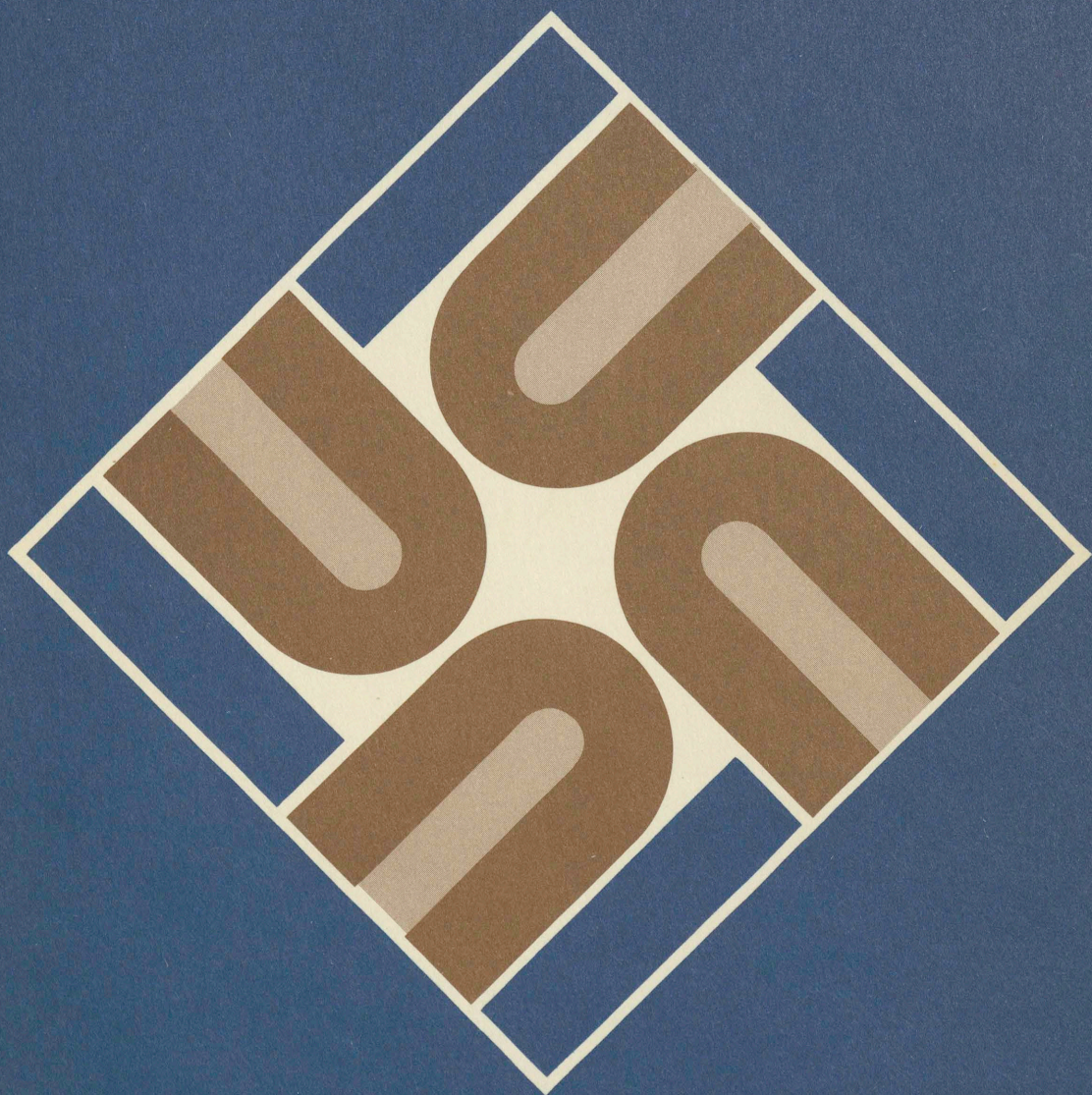


Alumni Bulletin

SCHOOL OF DENTISTRY

Fall Issue 1974



Indiana University

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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.

A Salute to Dr. Jack D. Carr

For many years Dr. Jack D. Carr has been putting his avocation of photography to good use in recording on film literally hundreds of memorable occasions involving his friends and colleagues at the Indiana University School of Dentistry and in dental organizations throughout the state and nation. Virtually every issue of the Bulletin mirrors his unique photographic talent.

But this time the situation is reversed. With the help of members of his family and Scotty (Richard Scott, Director of Illustrations at IUSD), his long-time friend and fellow lensman, all of whom were sworn to secrecy, Jack Carr himself becomes the subject of this pictorial tribute in recognition of his outstanding service to the dental profession.

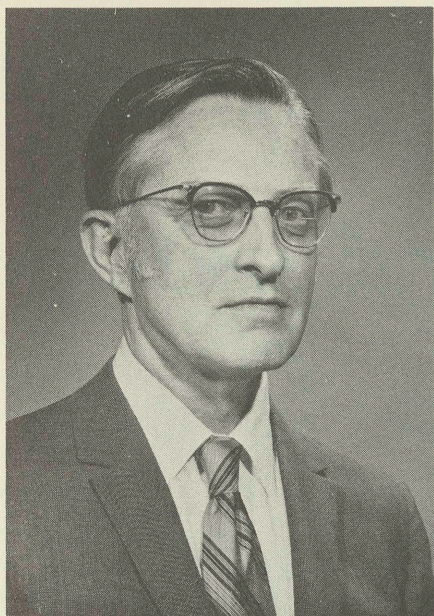
In addition to his sideline as a skillful and dependable photographer at official functions and social activities of the School of Dentistry and the Indiana State Dental Association, Dr. Carr has been a highly productive faculty member and loyal alumnus. A native of Clayton, Indiana, he holds Bachelor's and Master's degrees from Butler University and the D.D.S. degree from the School of Dentistry, class of 1939. He taught oral surgery at IUSD in 1939 and 1940 and then entered private practice. During World War II he was in the Army Dental Corps. Since 1952 he has been a part-time faculty member in the Department of Radiology, and he served as co-chairman of the department for four years. He also teaches dental history and clinical photography.

Among his numerous positions in organized dentistry, Jack has served the Indiana Dental Association as Speaker of the House of Delegates, delegate to the American Dental Association, historian, and official photographer. He has been President of the Indianapolis District Dental Society and the Dental Alumni Association. In addition, he has been National Chairman of the Alumni Fund Drive and is a member of the I.U. Century Club. During the past year he has been President of the American Academy of the History of Dentistry. His publications include papers related to radiology, dental caries and photography.

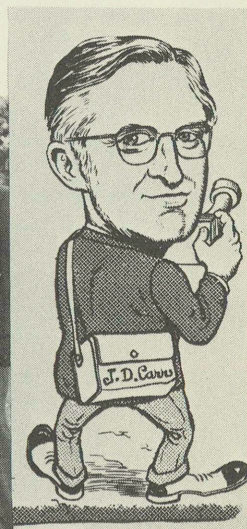
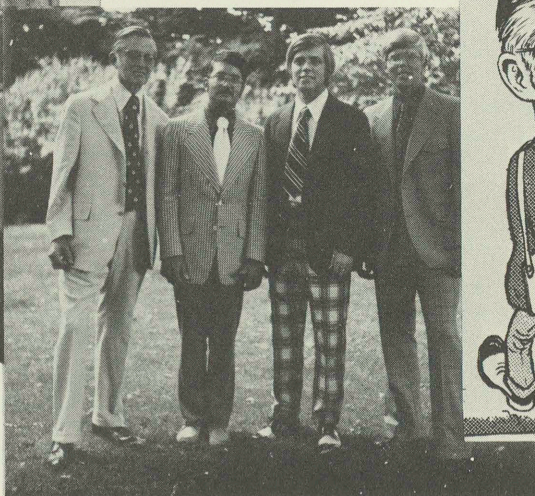
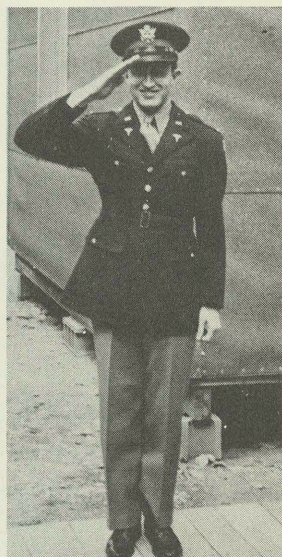
Dr. Carr is married and has one daughter and four sons. One son is a dentist, another is a junior in dental school, while the youngest is a freshman in dental school.

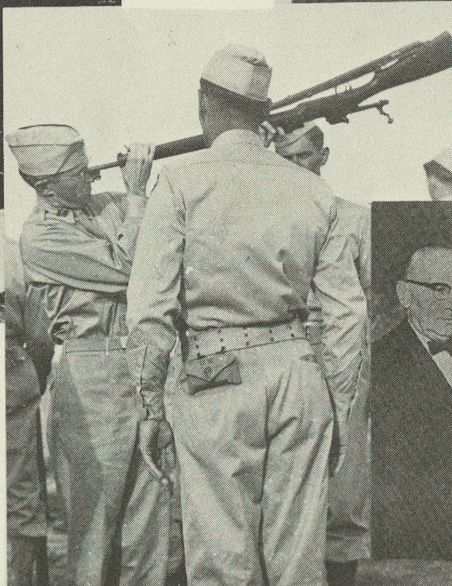
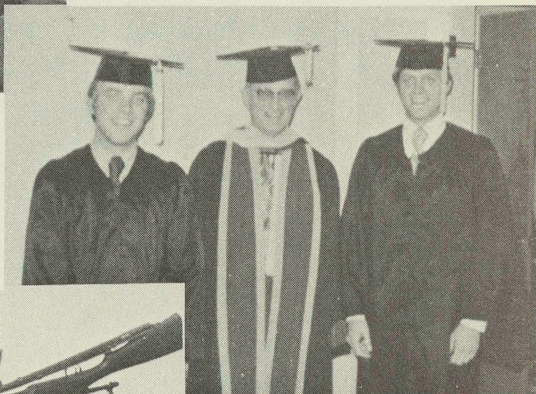
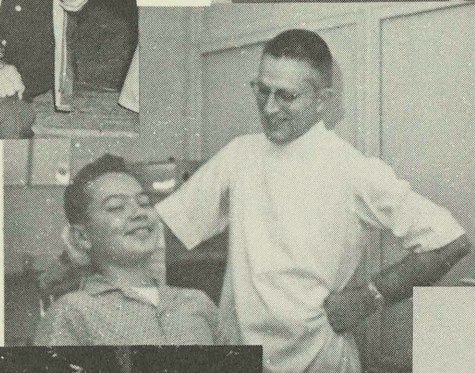
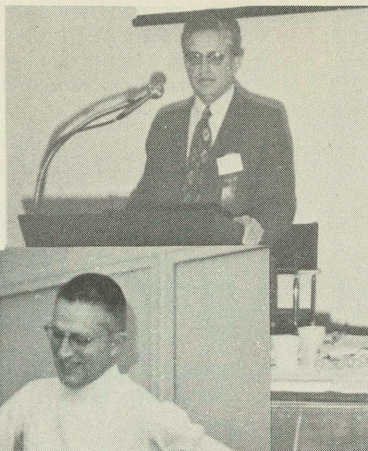
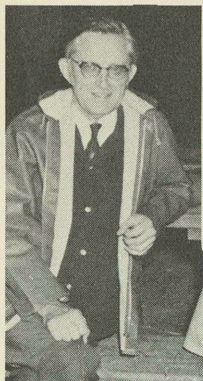
Congratulations and a "Well Done" to Dr. Jack Carr on his record of substantial achievement in various areas of dentistry and his unselfish assistance and counseling to so many.

The Editors



MAN OF MANY TALENTS—The illustrations on these pages show Dr. Jack D. Carr as dental practitioner, photographer, military man, scholar, speaker, family man, and so on and so on. . . .





The Status of Endosteal Implants in Dentistry

Donald M. Cunningham and Charles E. Hutton*

The concept of placing a material into the maxilla or mandible to replace missing teeth or support fixed or removable prosthetic devices has been considered for centuries. Of the many materials and designs which have been tried, most have met with failure. In recent years, however, new materials and new designs have resulted in progress of considerable clinical significance.

For the past two years the Departments of Oral Surgery and Fixed and Removable Partial Prosthetics at the Indiana University School of Dentistry have been conducting clinical investigations involving the latest innovation in endosteal implants: the vitreous carbon tooth root replacement system. The authors have been among the early investigative groups, which have included a team at the University of Southern California where the work originated, and other groups sponsored by Boston University, the U.S. Air Force and the University of Minnesota. We have also carried on a parallel study using endosteal blade implants. This article is presented to share with you some of our clinical experiences and thoughts.

Information for our profession is important since many articles have been published in the lay press which bring a number of questions to the family dentist. For example, in this area, articles have appeared in *The Indianapolis Star*, *The Indiana Daily Student*, *The Indiana Alumni Magazine*, *The Wall Street Journal* and others. We will first list the three questions most often asked (by dentists and patients alike), and we will then attempt to answer them briefly, in the light of our experience to date. The ques-

tions are:

1. What types of implants are available?
2. What are the indications for endosteal implants?
3. What is the success rate?

What types of implants are available?

Although there are a variety of inventions on the market, our experience has concentrated on two designs and materials—the vitreous carbon tooth root replacement and the titanium blade vent implant. One or the other of these concepts has served our purposes well and although there are some disadvantages in each, they offer a wide selection of sizes for a wide variety of situations. We have further concluded that limiting our experience to two modalities allows us to develop our skills more effectively and to assess the limitations of these procedures more accurately.

Vitreous carbon is the most recent material to appear on the clinical scene, although it has proven its biocompatibility over a period of several years in other fields and has been undergoing research investigation as a dental material since 1970. As the name implies, this is a pure processed carbon with glass-like properties. Most of the physical properties make it a nearly ideal material to support a tooth crown. Its biocompatibility and its acceptance by oral epithelium and alveolar bone are excellent. The material has two disadvantages: the color is black, which can present some difficult cosmetic considerations in the anterior regions, and it will fracture or chip if not properly handled. However, when exposed to the oral environment, it apparently will not accumulate calculus, and the patient can easily remove plaque. There is no epithelial invagination around the carbon; in fact, there is an "attachment" like adhesion, now undergoing electron microscopic studies, which acts as a barrier to both oral fluids and bacteria.

*Dr. Cunningham is Professor and Chairman of Oral Rehabilitation and Co-Chairman of Fixed and Removable Partial Prosthodontics. Dr. Hutton is Professor and Chairman of Oral Surgery and Director of the Oral Surgery Internship-Residency Program.

A stainless steel post and core is keyed to a metal sleeve within the carbon implant which is cemented to place and the crown is constructed on this in the same way as on a natural tooth.

The blade vent implant likewise uses basic metals or alloys which have long proven their biocompatibility in many fields of medicine. The physical properties are such that there is no risk of fracture; however, thermal conductivity can be a problem as well as epithelial invagination around the post. Crown design is difficult since there is no base on which to construct the prosthesis. The post which projects into the oral environment is a part of the endosteal appliance. One manufacturer has recently developed a blade with detachable post, but so far we have no experience with its use.

What are the indications for endosteal implants? In general, endosteal implants are indicated when for some reason conventional replacement of lost teeth is not feasible. A common example is the loss of a terminal abutment which would necessitate a removable partial denture. In such cases a successful implant would allow a fixed partial denture. Another instance is the loss by trauma or other means of an anterior tooth in a young patient when a fixed partial denture would be contraindicated. Implants may also be indicated for long span tooth

bound spaces where an intermediate abutment is needed for a fixed partial denture, and in the case of an atrophic mandible when support and retention are needed for a successful superimposed complete denture.

What is the success rate? In our vitreous carbon study we have placed over 100 implants; however, accurate records are available on only 69 cases for statistical purposes. However, those 69 cases include all of the known failures.

In this study we show a 71% success. These figures reflect the early case failures which occurred during the learning and experimental period. With recent changes in techniques and following the established rules for placement and restoring, we can consider the success to be about 90% over a period of two and one-half years. We can not speculate on the long-term prognosis, but this is difficult with any dental treatment, conventional or unconventional.

Our experience with blade vent implants has been somewhat different in that cases have been highly selective, mostly private practice type patients. The total number placed over a three-year period is not known, but statistics are available for 21 cases. One failure is known to have occurred, which presents a 95% success. However, since the total number is somewhat less than the carbons, our success

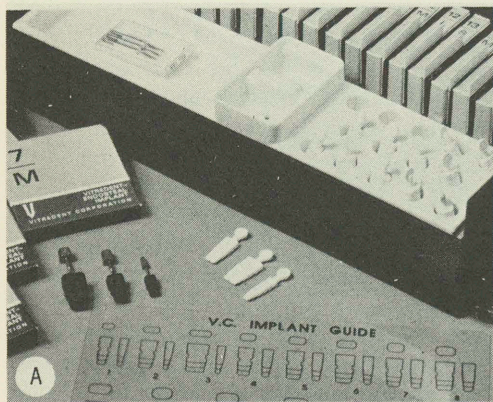


Fig. 1A—Vitreous carbon implants are provided in a selection of 42 sizes delivered in kit form with matching socket gauges.

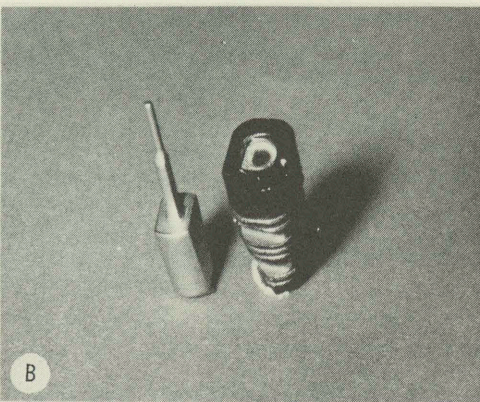
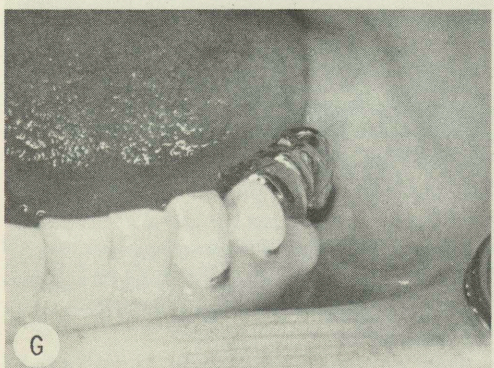
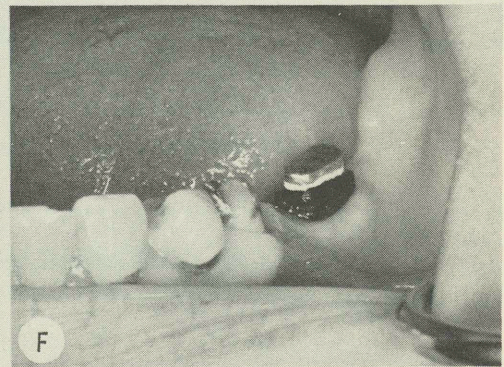
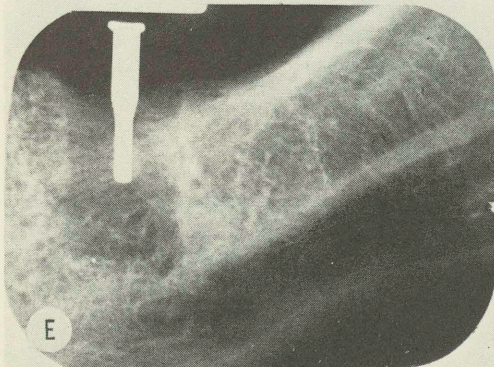
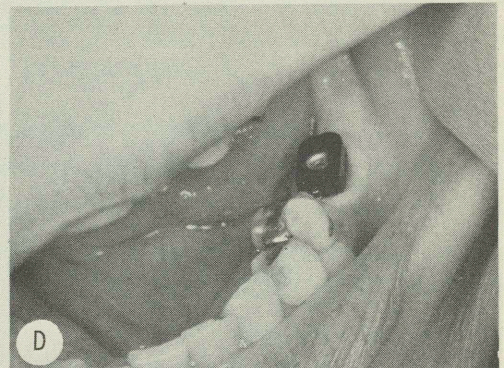
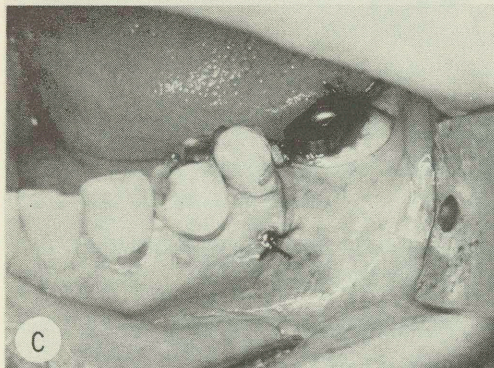
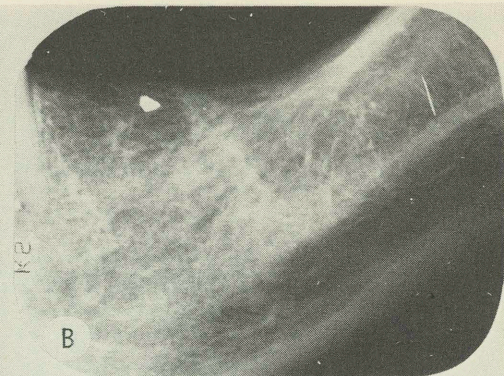
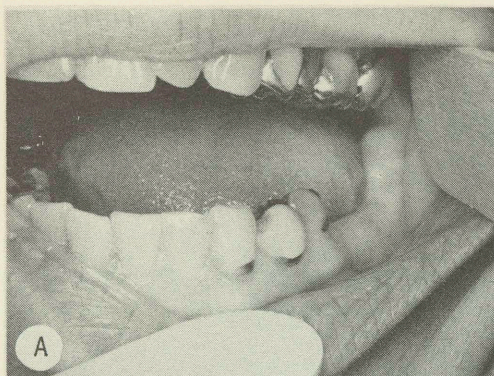


Fig. 1B—Typical vitreous carbon implant with stainless steel post and core.



Figs. 2A-B—Ideal indication for endosteal implant: missing molars in one quadrant, adequate bone, wide zone of attached gingiva, healthy mouth, and good oral hygiene. (C) Vitreous carbon implant inserted with sutures in place. (D) Six weeks post-insertion. (E) Note radio-lucency of the vitreous carbon implant. (F) Post and core cemented in place and finishing line prepared on implant. (G) Completed fixed partial denture one year after insertion.

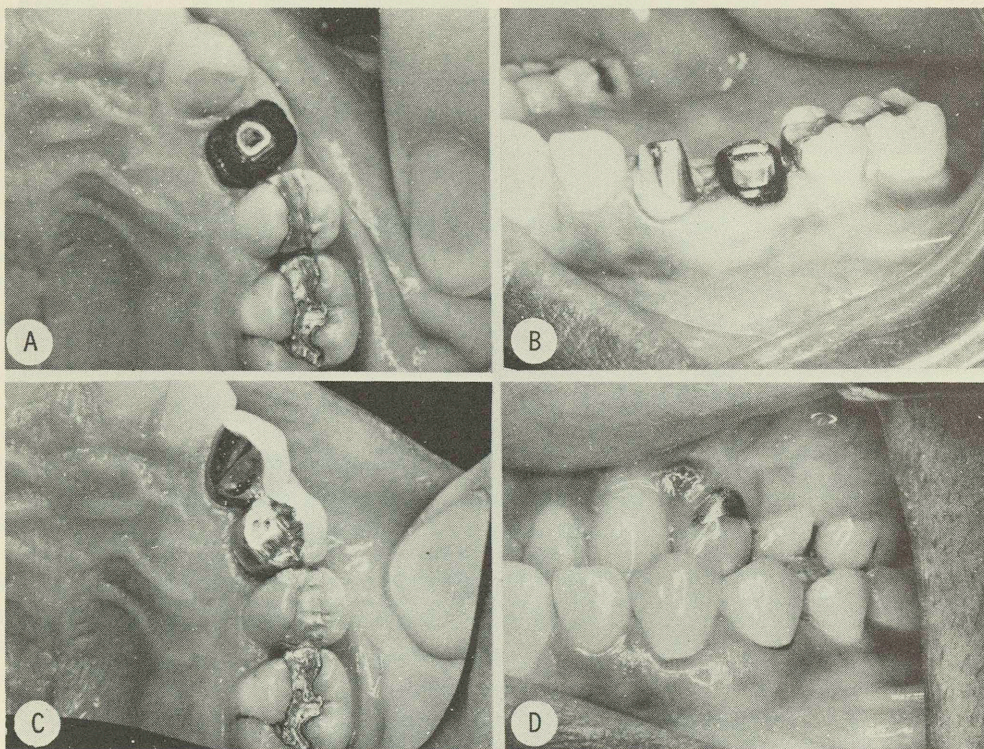


Fig. 3A—Vitreous carbon implant in place.

Fig. 3B—Post and core cemented. Adjacent cuspid prepared.

Figs. 3C-D—Permanent splinted restorations nine months after insertion.

can be considered essentially the same with both types.

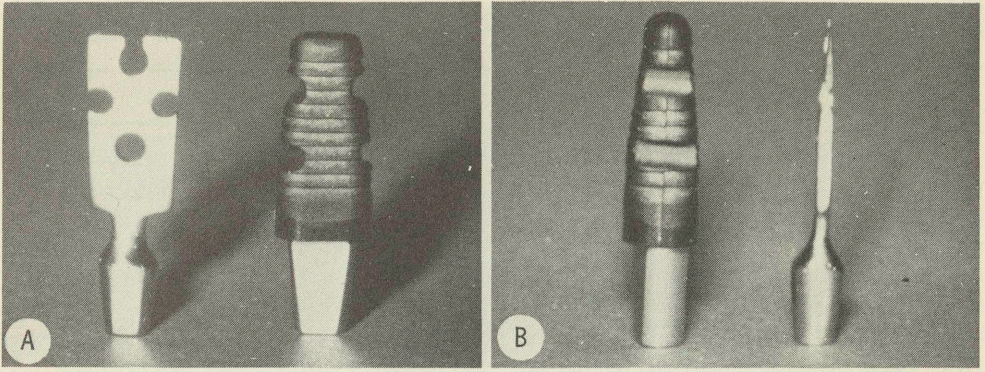
The requirements and indications for the two types of implants are somewhat different; however, when conditions are such that either can be placed, it is our impression that the vitreous carbon is the material and design of choice.

One of the advantages of the blade vent implant is that it can be placed in more adverse clinical situations due to its size and shape; however, in our experience the soft tissue reaction to the carbon implant is superior in most cases. These facts have prompted research in an attempt to

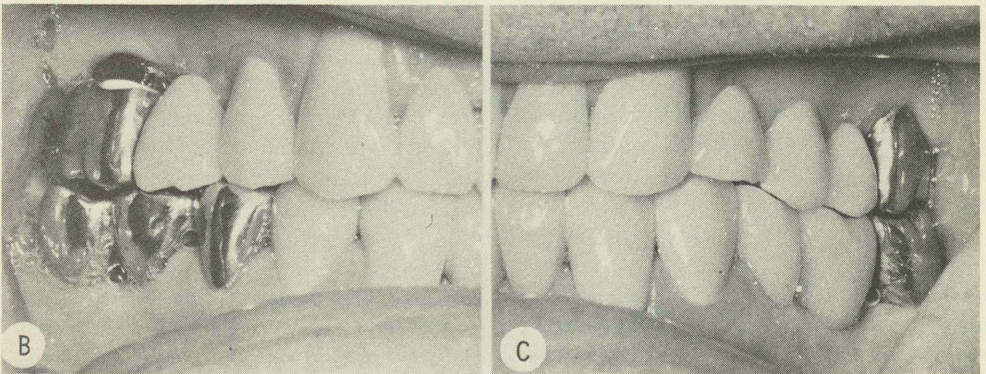
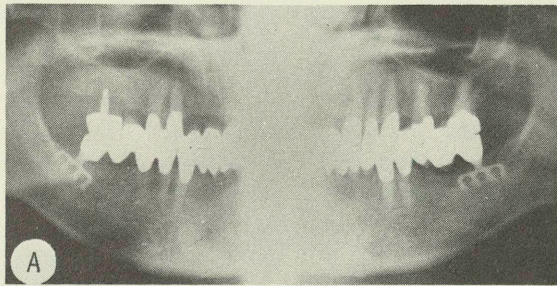
combine the two implant systems in order to provide the practitioner with a more versatile tool in the replacement of lost natural teeth.

It is hoped that the blade vent implant can be fitted with a carbon post so that the implant can be placed in smaller sites and have the advantage of the excellent tissue response to the vitreous carbon. Only time will tell if this design will in fact meet all requirements of strength, retention, tissue compatibility, etc.

The accompanying illustrations (Figures 1-5) show some of the applications of vitreous carbon and blade vent implants.



Figs. 4A-B—Comparable blade vent and vitreous carbon implants.



Figs. 5A-C—Replacement of lost teeth using one vitreous carbon implant (maxillary right) and two blade implants (mandibular right and left). (Restorative Dentistry for this case was done by Dr. Russell James, Indianapolis, Indiana).

First Graders Speak Out on Dental Health

*Sally Phillips**

As a student in the Dental Assisting program at the Indiana University School of Dentistry, I soon learned the importance of presenting dental health education in a manner that appeals to the patient and seems relevant to him. The desirability of starting children off on the right track with an interest in dental health was also stressed. With these two points in mind, I made arrangements to visit two first-grade classrooms on an educational mission—educational for me as well as for the children.

I could feel the excitement in the children when I walked to the front of the room. At first I thought they were just excited because someone new was in the classroom (my niece was a pupil in one of the classes and had been broadcasting for a week that I was coming to talk about teeth). But the enthusiasm with which they answered my questions and participated in the presentation suggested to me that they were excited about being able to talk about something usually reserved for adults; namely, dental health. Also, I was wearing my white school uniform and cap, and children generally associate white uniforms with doctors and nurses, or someone else of importance. The children may have felt that someone important was doing something different by letting them do the talking instead of just saying "Yes, sir" or "Yes, Ma'am."

In giving the presentation I mostly just asked questions at first. I did not merely give answers and let the children agree with them. The children gave their own answers. If I had answered the questions right off, I think the children would have felt inhibited in giving their own answers.

First, I wanted to find out what the children thought teeth were for and what teeth are made of. Some of the children's answers surprised me, but I was also sur-

prised by some answers that they did not give. Most of the children said teeth are for eating, biting, and chewing. Two of them mentioned the part teeth play in talking, which I hadn't thought of. But probably the best answer came from one little boy who said, "Teeth are to eat hamburgers with!" One answer that no one thought of was smiling, which I thought would have been mentioned early, especially since several of the children were missing one or two of their front teeth.

The next question I asked was, "What are teeth made of?" From the great variety of answers to this, I found that children can't figure out what their teeth are made of, so they have to imagine things that they have had some contact with. "White cement," "rock," "clay", and "wood" were suggested as the main ingredients of their teeth. Other children mentioned gold, brick and wax. Two answers that prompted ridicule from the rest of the class were "glass" and "milk."

I then showed the children a poster I had made of "Tommy Tooth," a tooth with a big smile. The figure in the poster was also holding a large toothbrush. The children thought "Tommy Tooth" was pretty funny looking, one of them asking "When does a tooth smile?" One little girl said, "He's smiling 'cause he brushes his teeth and that makes him happy."

On the reverse side of "Tommy," I drew a cross-section of a tooth. From this we discussed the tissues of the tooth. I received more questions on this section of the presentation than any other. The children were amazed by the structure of the tooth. They found it strange that enamel is the hardest material in their body. As I explained the structure of the tooth, the children asked many questions, such as, "Will teeth burn?" "Can you saw them?" "Will they ever break?"

The children were also curious about the pulp of the tooth. Most did not know that teeth have blood and nerves. They

* Miss Phillips is a 1974 graduate of the Dental Assisting Program at the School of Dentistry.



Dental Seminar for Small Fry

asked many questions about how the tooth is nourished and how it stays alive.

Out of 61 children, 43 had been to the dentist. Upon asking the children what they thought a dentist is for, I was shocked to find that many children think a dentist is only "to pull teeth" and "to make false teeth," as they put it. Another common answer was "to put braces on teeth," even though I didn't notice any children with braces. Some children who had visited the dentist said a dentist "checks, cleans and fixes your teeth."

When the children were asked how they could help the dentist, many felt that brushing and taking good care of their teeth was the best way to help. One boy said, "You can help the dentist by not pushing anyone down and knocking their teeth out." Another volunteered that the way to help is "to keep your mouth open and not bite his fingers!"

The children didn't have much to say about whether they like to brush their teeth. One girl said she liked to brush because she had a Snoopy toothbrush and it was fun. One boy said he didn't like to because he had a loose tooth and brushing bothered it. Another complained because "I always get toothpaste on my shirt."

The children generally agreed that you should brush three times a day, once after each meal. Even though I explained that you can't always brush three times a day, they still stuck to that. Maybe they had received this information from toothpaste commercials on television.

There were some excellent comments on the kinds of food that are good for your teeth. I took along a "Guide to Good Eating" poster which showed the "Basic 4 Groups" and the daily amounts that should be eaten. Before I even showed the poster to the children, they had named the four groups and most of the foods listed in each group. They even said that Kool-aid and Coke were not so good for their teeth!

I also gave toothbrushing instructions to the children. First I demonstrated with a large toothbrush and model. I passed a toothbrush to each child (courtesy of the Oral Health Research Institute) and took

one for myself. All of us then brushed our teeth together by count. On the whole, the children caught on very quickly and followed the instructions completely.

I learned something from this experience with first-graders. For instance, they know what foods to eat that are good for them, but they really don't know what their teeth are, even though they are generally interested in questions like that.

The participation of the children was the most marvelous part of the whole presentation. Even the shy ones, who at first were tight-lipped, became as excited as the others in trying to get my attention so that I could call on them. And I did make a point of calling on every child. I feel that I learned more from their eagerness and participation and wanting to talk about dental health than they could possibly have learned from me.

I think I proved my point, that giving dental health in a way that appeals to the children, or patients, and seems relevant, and gets them to participate, will lead to more enthusiasm about dental health.

One thing I forgot to mention: When the children were talking, the ones in the first couple of rows leaned as close as possible to me, and the ones in back talked very loud. They realized that I had a tape recorder! Children are hams, but they are beautiful, too.

Five Receive Awards at Fall Conference

Dr. Timothy J. O'Leary, Chairman of the Department of Periodontics, and Dr. William G. Shafer, Chairman of the Department of Oral Pathology, received Honorary Alumnus Awards. Dr. Ralph E. Broyles, Chancellor Emeritus of the I.U. campus at Fort Wayne, was given the Distinguished Service Award. Dr. James W. Huckleberry, who received his D.D.S. degree from the Indiana Dental College in 1924, and Dr. A. C. Yoder, Jr., a member of the Class of 1939 at IUSD, were honored with Distinguished Alumni Awards.

Dental Clinic in Haiti

Ronald R. Schlimmer*

"Ouvri bouch ou net" and "Ferme bouch," two phrases that translated mean "Open your mouth wide" and "Close your mouth," proved to be of great significance and usefulness to me during the summer following my junior year at the Indiana University School of Dentistry.

For two weeks during that summer of 1973 I had the distinct pleasure of accompanying Dr. Doyle Ellis, a Vincennes dentist and his family, and Dr. Ken Baker, a South Carolina dentist and his wife, to Jeremie, Haiti, where we worked in the dental clinic of the English Methodist Rural Rehabilitation Project.

We arrived at Port-au-Prince, the capital of Haiti, and passed through customs with veterinary supplies and school supplies in addition to trunks full of dental equipment including 600 toothbrushes, anesthetics, analgesics, antibiotics and instruments.

Haiti is an independent republic in the West Indies lying fifty-five miles southeast of Cuba. Port-au-Prince is the largest city, with a population of 300,000, and Jeremie is fifth or sixth largest, with about 12,000 people. Haiti is the poorest and most densely populated country in the western hemisphere with an annual per capita income of seventy to eighty dollars. Over eighty per cent of the people live in rural areas, many trying to make a living as farmers. Farming is often extremely difficult, for Haiti is very mountainous and rocky. Most areas have ample rainfall but because of the high evaporation rate and porous soil, much of Haiti is considered semi-arid. In addition, many of the trees have been burned for charcoal, causing a difficult erosion problem.

The more affluent Haitians speak French, which is the official language;

however, the language of the people is Creole. Most of them know enough English to bargain with tourists, and in Port-au-Prince even the smallest boys and girls know enough English to beg.

Dr. Francois (Papa Doc) Duvalier rose to power in 1957 and ruled until his death in 1971, leaving his son Jean-Claude (Baby Doc) as president *a vie* (for life).

I heard it said that 90% of the people are Catholic, 10% Protestant and 100% voodoo. Voodoo does have a large following in Haiti.

While in Port-au-Prince I met a psychiatry resident from California, an engineer from Memphis and an instructor in dance from Goshen College in Goshen, Indiana. We decided to rent a cab and go to the voodoo—this one especially for tourists.

Voodoo means spirit. It is not meant to be black magic. It combines Catholic beliefs and African religion. From Catholicism you have certain prayers, the sign of the cross, bells, etc. The African elements are the drums and the dancing. That night the participants were to call upon one of their saints, St. Patrick, who is identified with the African snake deity Damballah. The dancing and chanting continued until one of the believers began staggering and was unable to stand. She was now "possessed by the spirit." After the ritual ended, it was back to the hotel to prepare for travel.

We flew from Port-au-Prince to Jeremie on a small twin engine plane. Over Jeremie we could see both thatched and metal roofed houses along the dirt roads.

We landed on the dirt runway and were met there by Roger Nelson, the English veterinarian, who took us first to register with the local military and then on to our quarters. We stayed with Edward Holmes, an English minister. My room on the second floor had a fantastic view of the Caribbean Sea. Later that day Richard Challandes, the Swiss project director, took us to a beautiful cove for swimming.

* Dr. Schlimmer received his D.D.S. at the Indiana University School of Dentistry in 1974 and is an intern in oral surgery at Marion County General Hospital. His article was a prize-winning entry in the Senior Essay Competition.

It was interesting as well as beautiful, for the hull of a sunken ship protrudes from beneath the water near the center of the cove. Excitement that night was provided by a wandering tarantula in Dr. Ellis' bedroom.

The day after we arrived in Jeremie was a holiday and on holidays no one works. We were taken on a tour of the English Methodist Rural Rehabilitation Project. It has one large schoolroom which houses educational facilities for more than 100 children. There are training programs for the villagers such as building trade and machine shop. There are areas for food production: banana groves, coconuts, cocoa beans, breadfruit, mango, oranges, citron, and pineapples. A nearby river is the source of the water piped into irrigated fields. Roger, the veterinarian, has acquired better cattle for breeding with the village animals in hopes of developing a better line of beef.

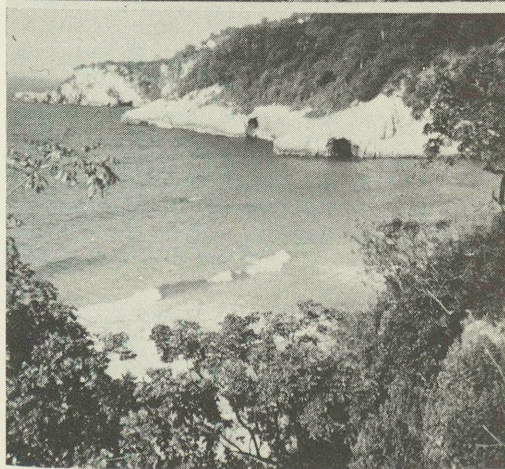
The medical and dental clinic building was built by the project people. It is a large building with a small pharmacy, several examining rooms for the Haitian physician who visits there twice a week, a two-room dental clinic and a large thatched roof shelter house waiting area outside. About fifty yards from the shelter is a parking area for persons having horses or donkeys.

Upon arrival at the clinic each morning, we were greeted by what seemed to be an endless number of people awaiting our services. The equipment at the dental clinic consisted of one dental chair, one non-operable dental unit which we roped to the window frame in order to utilize its light source, and two rocking chairs elevated on concrete blocks.

Each patient was given a card to fill out, listing his name, village and order of arrival. His problem was determined via a translator and marked on this card. We then anesthetized him and moved on to the next person in line. We had three anesthetized patients in the chairs at all times and more sitting in the hallway. Never before had I seen so many teeth with abscesses or teeth decayed down to the gingiva. No restorative work was done, only extractions. It is hoped that

this will be changed in the near future; however, our main purpose at that time was to relieve pain.

Textbook methods could not always be followed. We were constantly having to improvise. For example, at times it was necessary to use an inlay seating mallet and a number 40 elevator for removing bone, probably more traumatic than with conventional methods, but quite effective. While the doctors and I were attending the patients, Mrs. Ellis, her boys, and Mrs. Baker were either sterilizing instruments or acting as chairside assistants. Mrs. Ellis also instructed the teachers at the school in brushing and flossing techniques.



(Top) The harbor at Jeremie, Haiti. (Bottom) A cove near Jeremie.

At the end of each day many were turned away but told that we would return early the next morning.

Every day was different. There were some problems that we were simply unable to treat. One young girl had a large swelling in the area of Wharton's duct. Since we had no x-ray equipment, our diagnostic facilities were limited; therefore, we advised her parents to take her to Port-au-Prince where better facilities were available.

On the way home that day I happened to see a man with elephantiasis of the lower leg—not an everyday type disease.

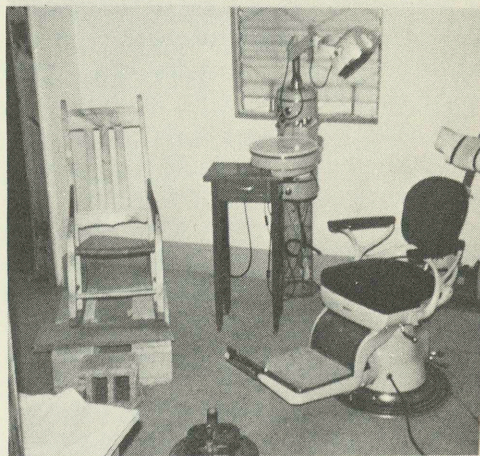
For our third working day Mrs. Ellis and I visited the school to screen the six classes of children. Fifteen or sixteen were sent to the clinic for extractions. More probably should have gone but a number of them insisted that they were having no problems. It seemed as if most of the children had few problems with decay prior to age ten. For some reason the girls seemed to have less decay than the boys. One one occasion two villagers who wanted to have dental work done tried to sneak into the line for the school children and get passes to the clinic. After the school examinations I returned to work at the clinic. We had to turn more away again this day.

After three days in the clinic at Jeremie, we headed on the following morning for the village of Despagne. Standing in the back of the British Land Rover for three hours, we covered the thirty to thirty-five miles on a one lane road into the mountains. When we arrived at the clinic, people were waiting in the reception area. The clinic had also been built by the project personnel. In Despagne we had no electricity. Flashlights were the only means of lighting. In addition to clinic work, Mrs. Ellis and I examined the school children of the village. They seemed to have more caries than those in Jeremie.

Here I also observed some unusual cases. Besides a papilloma on a tongue, I found a young boy with a unilateral bony tumor of the mandible. We had to advise that he, too, be taken to Port-au-Prince. Another striking case was that of a child with malnutrition. This boy had spindly

limbs, an extremely protruded abdomen and a reddish cast to his hair. I had to chip loose what I would describe as a "calculus bridge" from his teeth before an extraction could be performed.

On the fifth working day we left from Jeremie for another mountain town, La Croix Cherie, at about 5:45 a.m. We arrived at the bottom of the mountain for what appeared to be a short climb. There were villagers waiting to carry our equipment. I was one of the first to start the ascent, and I climbed and climbed *and* climbed. The villagers carrying our supplies passed me. I saw both young and old Haitians virtually running up and down that mountain.



(Top) The author and Mrs. Ellis examined Haitian school children out in the sunlight at the mountain village of Despagne. (Bottom) Makeshift equipment had to be used in the clinic at Jeremie. The rocker at left is one of two which were pressed into service as dental chairs.

When we arrived at the top people were again waiting. This clinic was set up in the home of the president of the village with our rocking chairs around the table. It should be explained that blood was removed from the mouth by the use of sterile 2 x 2 inch gauzes and by having the person spit into a bag attached to the table. Methods of sterilization were different, too. Since there was no electricity, we had to boil our instruments on a charcoal fire. Although this is considered to be only a method of disinfecting it was the best substitute available to us. I have been asked why cold sterilization solutions were not taken along. The answer is that there was simply not enough room.

An interesting development occurred at La Croix Cherie. The method of patient selection was left up to the village leaders. They were asked to choose the ones in extreme pain first, a fairly easy thing to do. The problem appeared to arise when the next people selected were to be those who contributed the most to the village. Each one thought that he was as important in village affairs as the next person. Calm was restored when the village leaders threatened that we would leave. At the end of this day we had to face two realities—the walk back down the mountain and turning more people away, many of whom had walked miles to have dental work done. We informed them where we would be located the next day, and several would be there waiting for us.

Our final day was spent up in the mountains in the village of Gobin. For our arrival the villagers had extended the road so that we could drive closer to where we would establish the clinic. To get to the village we had to cross a small stream which was extremely clear and clean. The people came to help carry the supplies. We were to set up in the home of the president of the village but the main room was so small that we worked outside under the thatched roof, which was to be the waiting room. As far as could be determined, we were able to treat everyone here.

We finished early and prepared for a quiet ride home, but the ride was anything

but uneventful. On this winding single lane road we had to stop behind a broken-down bulldozer. We were there for two hours before we realized that if we would pay some workers out in the field they would use their machetes and cut a path for our Land Rover around the bulldozer.

Before returning home we went out to a point overlooking Jeremie. It was now time to pack and get ready to leave Haiti. Before our plane landed, cows had to be chased off the runway. After saying our good-byes, we were off for Port-au-Prince with its noise, cars, and market places, and then on to the United States.

During the six days that we worked we saw 357 patients and extracted 789 teeth. School children were examined and their teachers shown how to brush and floss. We were able to travel to areas that had never before seen a dentist and treat many people with definite dental needs. Even before we returned to the United States, plans were being made for the next dental team to travel to Haiti. Dental units are being sent in hopes of providing restorative care. Much has been accomplished, but much more remains to be done.

Dr. Furnas Visits School

Dr. I. Lester Furnas visited the School of Dentistry May 24, 1974, en route from his home in LaJolla, California to Cleveland, Ohio where he was honored by Case-Western Reserve University School of Dentistry. Dr. Furnas was Chairman of the Prosthodontics Department there for twenty years, and the occasion for his trip to Cleveland was the dedication of the I. Lester Furnas Prosthodontics Clinic.

After his graduation from Indiana Dental College in 1910, Dr. Furnas became the second dentist to be employed at the Fort Wayne State School. Dean George Hunt then asked Dr. Furnas to teach prosthodontics here, and he was a member of the Indiana Dental College faculty from 1911-1913. During this period he took special courses in prosthodontics at Northwestern University and worked in the laboratories of Dr. Alfred Gysi in Zurich, Switzerland.

Minor Tooth Movement in Amelogenesis Imperfecta: A Case Report

Ronald B. Mack, Graduate Student in Pedodontics

Amelogenesis imperfecta is a heritable defect of the enamel layer of teeth, with an incidence of about 1:14,000 to 1:16,000 in the general population.¹ According to Law et al,² there are two main sub-classifications of amelogenesis imperfecta: hereditary enamel *hypoplasia*, which is a defect in the apposition-matrix phase of tooth development, and hereditary enamel *hypocalcification*, which is a defect in the calcification-maturation phase. Under these headings four hypoplastic and three hypocalcific variations have been described.

The patient who is the subject of this case report could be classified in the hereditary enamel hypoplasia subclass. Her teeth are consistent with the following description except that they are slightly rough, not smooth, and glossy yellow, not orange-brown.

Law et al outlined the hypoplastic category of amelogenesis imperfecta as follows:

1. Enamel—thin but hard; smooth and glossy.
2. Color—glossy yellow to orange-brown
3. Radiographic appearance—enamel of normal density but reduced in thickness by one-quarter to one-half of normal.
4. Genetic characteristics — autosomal dominant.
5. Histologic characteristics — above normal organic substances in demineralized sections; the apposition-matrix formation in the life cycle of the tooth is affected.

Although the familial, genetic, metabolic, pathologic, and restorative aspects of amelogenesis imperfecta have often been discussed in the literature, no reports of minor tooth movement in a child with amelogenesis imperfecta are known to have been published.

Case Report

D.B., a white female aged 10 years and 10 months, was first examined in the Graduate Pedodontic Clinic at the Indiana University School of Dentistry on May 30, 1972, after being referred to us from private practice, for consultation and treatment along with her older sister, C.B. The girls were referred for restorative care and treatment planning for the rough, discolored enamel on the anterior teeth. At that time a tentative diagnosis of amelogenesis imperfecta was made for D.B. on the basis of clinical examination and family history. C.B. was found to have the same type of amelogenesis imperfecta as her sister and is also continuing to receive comprehensive restorative and preventive dental care at our clinic.

The medical and dental history of D.B. was non-contributory, except for the generalized dental defect, and the patient appeared to be in good health. She had had routine restorative dental care in private practice; she continues to have a very low dental caries rate. At the Graduate Pedodontic Clinic, she received periodic comprehensive dental and radiographic examinations and stannous fluoride prophylaxes. In addition, study models were completed and Kodachrome slides were secured.

Consultation with Dr. David Bixler, of the Department of Oral-facial Genetics, using clinical, family, and biopsy (#A and H) findings in June, 1972, confirmed the diagnosis of amelogenesis imperfecta condition of the hypoplastic type. The family pedigree showed a pattern strongly suggesting autosomal dominant inheritance, which would be consistent with this type of hypoplastic amelogenesis imperfecta; however, the mechanism of X (sex)—linked dominant inheritance was considered possible but highly unlikely.

Members of the Fixed and Removable Partial Prosthodontics Department emphasized the immediate need to preserve the vertical dimension by placing chrome steel crowns on all first permanent molars, and suggested that coverage for the bicuspid might be provided later. The desirability of replacing these provisional full coverage restorations with gold and porcelain-to-gold during the patient's late teenage period was stressed to both the patient and her mother. Acrylic jacket crowns for the anterior teeth were not needed at this time. During September, 1972, the functional requirements were completed by placing chrome steel crowns on teeth #3, 14, 19, and 30. No other restorative dentistry was required.

The clinical and radiographic findings obtained during May and June, 1972, are consistent with the description of this type of amelogenesis imperfecta, as modified above. During these examinations it was noticed that the right and especially the left bicuspid segments had not yet fully erupted into occlusion. It was decided that the bucco-lingual position of the palatally-inclined #12 should be altered to avoid its eruption into a cross-bite relationship with the correctly positioned #21 (Figs. 1 and 2).

The specific biomechanical requirements involved in this single tooth movement of #12 are uncontrolled tipping forces. No couple or moment was needed to solve the malposition of #12. This impending crossbite was shown by clinical and study model determinations to be a single tooth problem which did not involve an offending quadrant or a skeletal cross-bite. The treatment plan was designed to tip #12 buccally into ideal position by uni-arch treatment. Actually, this treatment might be considered tooth guidance during eruption, accomplished by minor tooth movement with simple mechanics.

On November 6, 1973, the patient's mother was informed that there was a slight possibility of self-correction, but immediate treatment was nonetheless advised. At the same appointment a fixed appliance was then designed that would meet the aforementioned biomechanical

requirements. The appliance was fabricated as described and illustrated here. The trans-palatal bar was .036 inch chrome steel wire, and the finger spring was .018 inch chrome steel wire (Fig. 3).

On November 15, 1973, chrome steel bands were adapted around chrome steel crown restorations for #3 and 14. A red compound impression was taken to orient these bands on a working stone model. The appliance was constructed, and was later cemented to place on December 11, 1973. Initially, the finger spring was activated 3 mm to the buccal, which represented about 60 grams measured on the Dontrix scale. The patient was advised of possible slight discomfort.

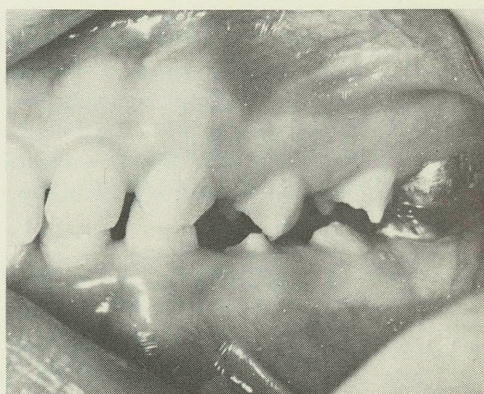


Fig. 1—Pre-operative appearance of #12-21 position in left buccal segment.

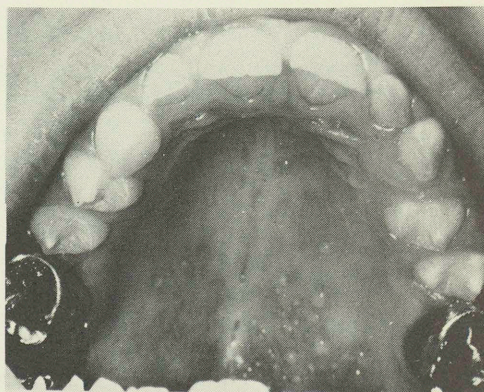


Fig. 2—Pre-operative position of #12 in palatal view.

One week later (December 18, 1973) #12 had moved .5 mm to the buccal. The finger spring was adjusted to eliminate a slight gingival impingement and to maintain a constant buccal tipping force. After the Christmas vacation, D.B.'s mother phoned to express concern that this maxillary left first bicuspid (#12) had moved beyond the desired location. The patient was examined the next day (January 9, 1974). The findings indicated an optimal correction of #12, since the buccal cusp tip was 1 to 1.5 mm over-corrected. Also, the end of the finger spring, which had partially embedded itself in the palatal gingival sulcus, was adjusted occlusally to passively maintain #12 in correct position.

The position of #12 was re-evaluated (January 22, 1974 and April 2, 1974) and the retention period was extended approximately three months. During the latter appointment, the finger spring was observed to be embedded in the gingival sulcus. The appliance was then removed and placed in a post-operative study model impression. It was observed that #12 was still moderately over-corrected by 1 to 1.5 mm, as anticipated. It was further expected that this intentional over-tipping would relapse to an ideal position after the appliance was removed.

At the next post-operative visit (April 18, 1974), #12 had relapsed palatally approximately 1 mm and was in an almost ideal position, although complete eruption of the opposing tooth (#21) had not as yet occurred. In addition, the surrounding gingiva appeared to have proper contour and color.

The findings of the final visit in this series (June 25, 1974) demonstrated that #21 had completely erupted and ideally interdigitated with #12 (Figs. 4 and 5).

Discussion

Extrapolating the results of one case to other individual variations requires caution. However, the findings in this case suggest that teeth with other heritable and non-heritable enamel alterations (i.e.

(Continued on Page 78)

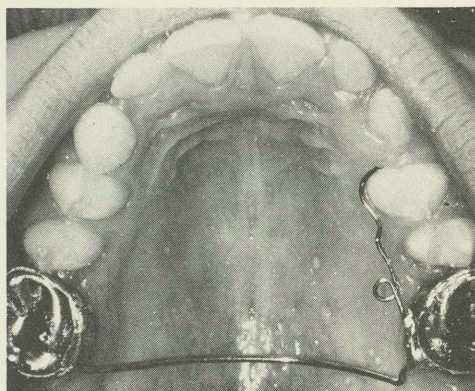


Fig. 3—Appliance in place immediately after cementation.

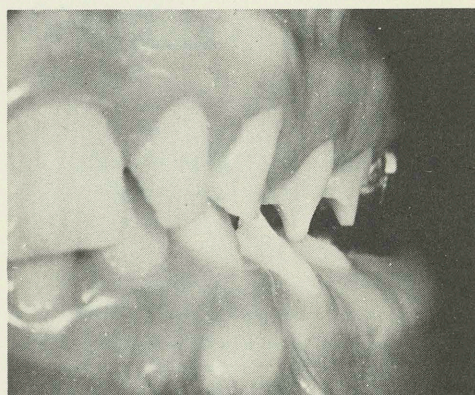


Fig. 4—Post-operative appearance of #12-21 position in left buccal segment.

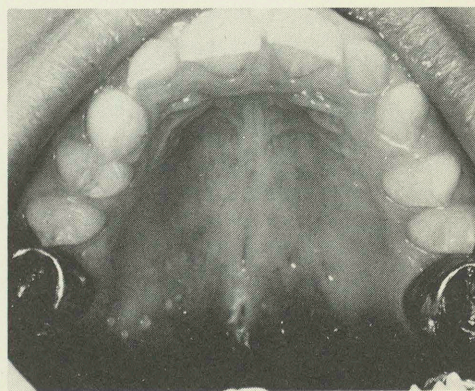


Fig. 5—Post-operative position of #12 in palatal view.

Continuing Education—1974-75

Important Notice: Since the following schedule was made out, Rice Auditorium has become unavailable due to a remodeling project. Therefore, all courses which are listed below for Rice Auditorium must be shifted to new locations. The new sites will be listed in the individual notices for each course involved in the change.

- C.E. 109—December 4, 1974
MEDICAL EMERGENCIES
Rice Auditorium—Indianapolis
Fee: \$35—dentist; \$20—hygienist or assistant
Dr. James Dirlam &
Dr. Charles Hutton
- C.E. 110—December 11, 1974
PRACTICAL COMMUNICATIONS
School of Dentistry—Indianapolis
Fee: \$35
Professor Paul Barton
- C.E. 111—December 13, 14, & 15, 1974
ORAL IMPLANTOLOGY
School of Dentistry—Indianapolis
Fee: \$300
Dr. Leonard I. Linkow
- C.E. 112—December 18, 1974
CLINICAL SKILLS FOR THE
DENTAL HYGIENIST &
DENTAL ASSISTANT
School of Dentistry—Indianapolis
Fee: \$25
Dr. Donald Tharp & Dr. James Vaught
- C.E. 113—January 13 & 14, 1975
ORAL PATHOLOGY FOR ORAL
SURGEONS
Airport Hilton Inn—Indianapolis
Fee: \$125
Dr. William G. Shafer & Staff
- C.E. 114—January 14, 1975
FOUR HANDED DENTISTRY
School of Dentistry—Indianapolis
Fee: \$80
Dr. F. E. McCormick
- C.E. 115—January 15, 1975
SOLVING PROBLEMS RELATED
TO OCCLUSION
Rice Auditorium—Indianapolis
Fee: \$40
Dr. David Jordan
- C.E. 116—January 18, 1975
CLINICAL PROGRAM FOR
DENTAL LABORATORY
TECHNICIANS
School of Dentistry—Indianapolis
Fee: \$15
Dr. Ray K. Maesaka
- C.E. 117—January 22, 1975
VITREOUS CARBON IMPLANTS
Rice Auditorium—Indianapolis
Fee: \$75
Dr. Donald Cunningham &
Dr. Charles Hutton
- C.E. 118—January 25, 1975
CAST GOLD PROCEDURES AND
CERAMO-METAL
RESTORATIONS
School of Dentistry—Indianapolis
Fee: \$100
Dr. Raymond M. Contino
- C.E. 119—January 29, 1975
A SYMPOSIUM ON
PERIODONTICS
School of Dentistry—Indianapolis
Fee: \$40
Dr. Niles M. Hansen &
Dr. William Gillette
- C.E. 120—February 5, 1975
ELECTROSURGERY
Rice Auditorium—Indianapolis
Fee: \$60
Dr. Joseph Morganelli
- C.E. 121—February 26, 1975
PREVENTIVE DENTISTRY
Rice Auditorium—Indianapolis
Fee: \$50—dentist; \$25—auxiliaries
Dr. George Stookey &
Dr. James McDonald
- C.E. 122—March 4-7, 1975
CLINICAL PEDODONTICS
School of Dentistry—Indianapolis
Fee: \$150
Dr. Paul E. Starkey & Staff
- C.E. 123—March 12, 1975
DENTAL AUXILIARY
EDUCATION
School of Dentistry—Indianapolis
Fee: \$20
Dr. W. Bailey Davis &
Dr. Donald Tharp

- C.E. 124—March 13, 1975
CLINICAL SKILLS FOR DENTAL
HYGIENISTS & DENTAL
ASSISTANTS
Gary Campus
Fee: \$20
Dr. James Vaught &
Dr. Donald Tharp
- C.E. 125—March 15, 1975
CLINICAL PROCEDURES IN
RESTORATIVE DENTISTRY
School of Dentistry—Indianapolis
Fee: \$50
Dr. John Mosteller
- C.E. 126—March 26, 1975
ESTHETICS IN COMPLETE
DENTURES
Rice Auditorium—Indianapolis
Fee: \$50
Dr. David R. Jordan
- C.E. 127—April 3-5, 1975
RELATIVE ANALGESIA
Rice Auditorium—Indianapolis
Fee: \$175
Dr. Harry Langa
- C.E. 128—April 2-4, 1975
SURGICAL ENDODONTICS
School of Dentistry—Indianapolis
Fee: \$250
Dr. Samuel S Patterson
- C.E. 129—April 9, 1975
ORTHOPEDICS, ORTHODONTICS
AND GNATHOLOGY
Rice Auditorium—Indianapolis
Fee: \$50
Dr. Leo McCallum
- C.E. 130—April 12, 1975
ADVANCED SURVEYING COURSE
FOR DENTISTS/TECHNICIANS
School of Dentistry—Indianapolis
Fee: \$25
Dr. Donald Cunningham &
Mr. Calvin Linton
- C.E. 131—April 16, 1975
DENTAL MATERIALS FOR
AUXILIARIES
Rice Auditorium—Indianapolis
Fee: \$25
Dr. Ralph W. Phillips
- C.E. 132—April 17-19, 1975
MANAGEMENT DECISIONS OF
A DENTAL PRACTICE
School of Dentistry—Indianapolis
Fee: \$100—dentist and 1 assistant
- \$50—each additional person
Dr. Arthur Klein
- C.E. 133—April 25 & 26, 1975
PANKEY-MANN-SCHUYLER
PHILOSOPHY & TECHNIQUE
School of Dentistry—Indianapolis
Fee: \$130
Ohio Occlusal Seminar
- C.E. 134—May 5-9, 1975
MAXILLOFACIAL PROSTHETICS
Airport Hilton Inn—Indianapolis
Fee: \$200
Dr. Varoujan Chalian
- C.E. 135—May 27-30, 1975
ORTHODONTIC GOALS FOR
THE CLEFT PALATE PATIENT
Airport Hilton Inn—Indianapolis
Fee: \$200
Dr. LaForrest Garner &
Dr. Sheldon Rosenstein
- C.E. 136—June 4, 1975
GERIATRIC DENTISTRY
Rice Auditorium—Indianapolis
Fee: \$50
Dr. Thomas Beavers
- C.E. 137—June 11, 1975
FIXED & REMOVABLE
PARTIAL PROSTHODONTICS
Rice Auditorium—Indianapolis
Fee: \$50
Dr. Roland W. Dykema
- C.E. 138—June 18, 1975
ORAL SURGERY FOR THE
GENERAL PRACTITIONER
Rice Auditorium—Indianapolis
Fee: \$50
Drs. Charles E. Hutton/James Dirlam
- C.E. 139—June 26-28, 1975
DENTAL PEDIATRICS
School of Dentistry—Indianapolis
Fee: \$75
Dr. W. Bailey Davis
- C.E. 140—July 14-17, 1975
DENTAL RADIOLOGY FOR
AUXILIARIES
School of Dentistry—Indianapolis
Fee: \$150
Dr. Myron Kasle
- C.E. 141—July 16-19, 1975
COMPLETE DENTURE SERVICE
IN GENERAL PRACTICE
School of Dentistry—Indianapolis
Fee: \$150
Dr. Malcolm E. Boone

INDIANA UNIVERSITY SCHOOL OF DENTISTRY

50th Anniversary

June 18, 1975

The Indianapolis Hilton

Program

Dr. Ralph W. Phillips, Moderator

- | | |
|----------------|--|
| 9:00 a.m. | Registration and Continental Breakfast |
| 9:30 a.m. | Greetings, Dean Ralph E. McDonald |
| 10:00-12 noon | Vitreous Carbon Implants,
Dr. Donald M. Cunningham
Dr. Charles E. Hutton |
| 12 noon | Luncheon
Speaker, Dr. Maynard K. Hine |
| 2:00-4:00 p.m. | Dental Auxiliary Education
Dr. James E. Vaught
Dr. Donald R. Tharp |
| 6:00 p.m. | Social Hour |
| 7:00 p.m. | Dinner
"A Look at the Future",
Dean Ralph E. McDonald |

The Indiana Dental College was founded in 1879 and operated under private auspices for 46 years. In June, 1925, the Indiana University Board of Trustees assumed control of the institution, thereafter known as the Indiana University School of Dentistry. The program outlined above will mark the 50th Anniversary of the School's affiliation with Indiana University.

Notes from the Dean's Desk...

Ralph E. McDonald

Another new school year is under way and it promises to present exciting opportunities for students, faculty, and staff.

Almost 150 faculty members and guests, including University officials and student representatives from the Indianapolis, Fort Wayne, and South Bend Campuses of Indiana University and Indiana State University - Evansville participated in the first formal event of the year—the Tenth Annual Teaching Conference of the School of Dentistry. The Conference was held at the Ramada Inn in Nashville on September 4 to 6. The theme of the meeting was “Excellence in Teaching—A Tenth Year Symposium.” Conference speakers included two Teaching Award winning professors from Bloomington, Professor Patrick Baude, of the School of Law, and Professor Hans Andersen, of the School of Education. Dr. Thomas Brittain, an Industrial Psychologist with Eli Lilly Company, also participated, as did members of our faculty and student body. The annual Teaching Conference and the Midwinter Interim Conference offer our faculty an opportunity to continue to improve their instructional and measurement techniques. The School of Dentistry has been recognized by the University central administration for demonstrating leadership in this important endeavor.

The Admissions Committee reviewed the credentials of 978 applicants for the entering class and accepted 130 students. This number included five non-resident students. No students were accepted with less than three years of predental preparation. Sixty per cent of the entering students have a Baccalaureate degree, six per cent have a Master's degree and one student a Ph.D. degree. In addition to the customary biology, chemistry, life-sciences background, the range of predental majors covers such fields as dental hygiene, business, education, engineering, language, medical technology, pharmacy, physical education, sociology, psychology, mathematics, religion and botany. Seventy-six

of the entering class members completed their pre-professional education at one of the campuses of Indiana University. The remaining students are representatives of 28 other schools. Twenty of the first-year students are related to dentists or to other dental students. The faculty is confident that the entering class is extremely well prepared academically and is favorably impressed with the enthusiasm of the students and their seriousness of purpose.

During the 1973-74 school year, 136 students registered for graduate dental programs. Of these 136 students, 40 participated on a part-time basis and 96 were full-time students, including 18 students representing 10 different countries, including England, Canada, Syria, Brazil, Mexico, Ireland, Japan, Thailand, Pakistan, and Ceylon. A total of 44 new students were accepted for the class beginning in August. The size of the graduate program has remained essentially the same in recent years.

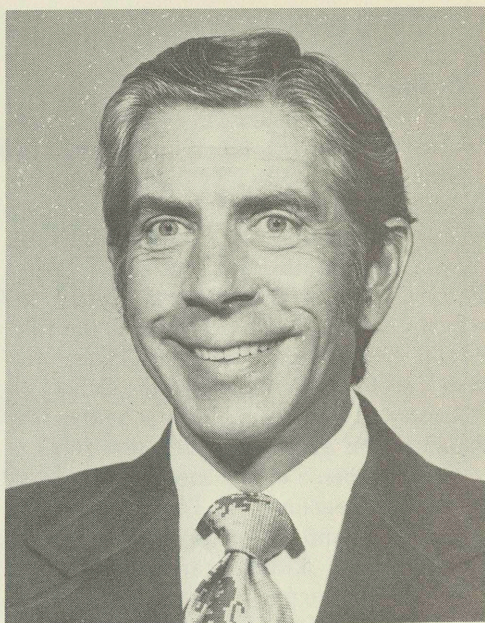
There continues to be an increasing demand for admission to one of the dental auxiliary programs. For the Indianapolis Dental Hygiene Program alone, 153 applications were returned, indicating that students had completed all of the requirements and were eligible to enter the program. Forty-one candidates were selected for the class, with all but one being Indiana residents. Sixty-four completed applications were received for the dental assisting program in Indianapolis. Thirty students were selected for dental assisting in Indianapolis. A total of 333 students are now enrolled in our dental auxiliary programs in Indianapolis and at Regional Campus Centers. The three programs at Indiana University-Fort Wayne include 109 students; Indiana University-South Bend has 69 students; and 46 are enrolled at Evansville. The total dental auxiliary enrollment in Indianapolis numbers 109 students. A recent survey of dentists in Indiana reveals that, in their opinion, the current most critical need in dental education

is that of providing additional opportunities for students in dental hygiene, dental assisting, and dental laboratory technology. The dentists also expressed great interest in the availability of dental auxiliary students with experience in expanded duty procedures.

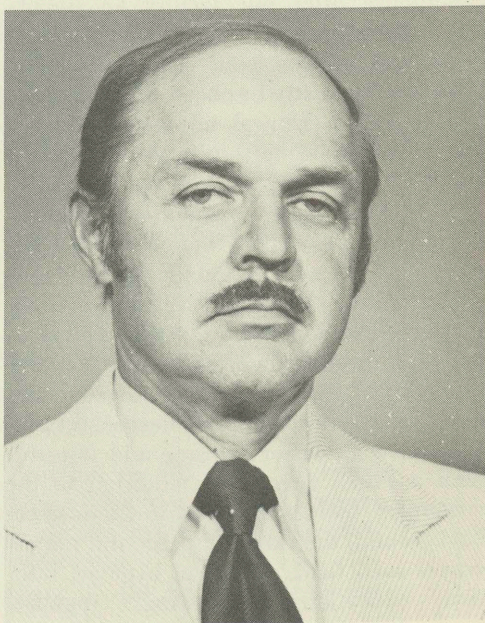
Several important administrative appointments have been approved by the Indiana University Board of Trustees since I last reported to you in this column. Dr. Charles E. Hutton has been named Chairman of the Department of Oral Surgery. Dr. Hutton will retain his responsibilities as Director of the Oral Surgery Internship and Residency Program at the Medical Center. Among Dr. Hutton's professional achievements are: Diplomate status of the American Board of Oral Surgery, membership in the Pierre Fauchard Academy, and Omicron Kappa Upsilon. He is the author of a number of publications in professional journals and has contributed to two textbooks. Dr. Hutton has served as President of the Indianapolis District Dental Society and the Great Lakes Society of Oral Surgeons.

Dr. James H. Dirlam has accepted appointment as Chairman of the Undergraduate Oral Surgery program. Dr. Dirlam joined the Indiana University School of Dentistry faculty in 1970, after a distinguished career in the Dental Corps of the United States Air Force. During his career in the military he served as Chief of Dental Services at Clark Air Force Base Hospital in the Philippines. At one time he was a member of the teaching staff at Lackland Air Force Base and served as a clinical assistant professor of surgery at the University of Texas Dental Branch. Dr. Dirlam, a 1950 graduate of the School of Dentistry, completed his graduate program in oral surgery at the University of Pennsylvania and at Grady Memorial Hospital in Emory University, Atlanta. He is a Diplomate of the American Board of Oral Surgery and has lectured extensively in his specialty.

Dr. Ronald S. Ping, who resigned as Chairman of Oral Surgery, has agreed to accept the Chairmanship of Dental Therapeutics and Pharmacology. Dr. Ping has long had an interest in therapeutics and



Dr. Charles E. Hutton



Dr. James H. Dirlam

will work to strengthen this undergraduate program and also will develop a pharmacy for the School of Dentistry.

On July 1 Dr. Ralph W. Phillips was promoted to the rank of Associate Dean for Research, and Dr. S. Miles Standish was promoted to the rank of Associate Dean for Graduate and Post-Graduate Education. Dr. Phillips also has the title Research Professor of Dental Materials, and Dr. Standish is Professor of Oral Pathology and Chairman of the Division of Clinical Oral Pathology.

An additional administrative responsibility has recently been accepted by Dr. Phillips and approved by the President's Office. Dr. Phillips will serve as Director of the Oral Health Research Institute. The Oral Health Research Institute was developed three years ago when the Preventive Dentistry Research Institute was relocated at the Indiana University-Fort Wayne Campus and placed under the direction of Dr. Joseph C. Muhler. Dr. Phillips, as Director of the Oral Health Research Institute, will be responsible for coordinating the research of the Institute with the basic and applied research being conducted in the School of Dentistry.

Dr. George W. Stookey has been named Associate Director of the Oral Health Research Institute. Dr. Stookey will supervise the basic and applied research activities and continue to supervise the many projects sponsored by industry.

Dr. Maynard K. Hine will continue to be active in the work of the Institute and has accepted the position of Consultant.

During the past year several members of the School of Dentistry Faculty received local, national and international recognition for their contributions to dentistry and research.

Five members of the School of Dentistry faculty served as Presidents of state and national organizations: Dr. Jack D. Carr, President of the Academy of History of Dentistry; Dr. Varoujan A. Chalian, President of the American Academy of Maxillo-facial Prosthetics; Mrs. Suzanne Boundy, President of the Indiana Dental Hygiene Association; Dr. Henry M. Swenson, President of the American Academy of Periodontology; and, Dr. Ralph E. McDonald,



Dr. Ronald S. Ping

President, American Association of Pedodontic Diplomates.

Two members of the faculty served as Editors of national scientific publications: Dr. David F. Mitchell, Editor, *Journal of Dental Research* (Dr. Mitchell also served as President-Elect of the American Association for Dental Research); and, Dr. Timothy J. O'Leary, Editor, *Journal of Periodontology*.

Members of the Dental School faculty published four textbooks: Dr. William G. Shafer, Third Edition of *Oral Pathology*; Dr. Ralph W. Phillips, Seventh Edition, *Science of Dental Materials*; Dr. Ralph E. McDonald, Second Edition, *Dentistry For The Child And Adolescent*; and Dr. Simon Katz, Dr. James L. McDonald, Jr. and Dr. George K. Stookey, *Preventive Dentistry in Action*. This book received the American Dental Association special merit award for excellence in the field of preventive dentistry.

Dr. Maynard K. Hine and Dr. Ralph E. McDonald were elected to Honorary Membership in the American Dental Society of Ireland. They received their certificates at a ceremony held in Dublin on July 9 during the time that 180 Indiana

University alumni were participating in the tour to Ireland.

Dr. Myron J. Kasle was awarded the 1973 Lord-Chaim Award of the First District Dental Society of New York. This annual award included a \$500.00 cash prize from funds provided by bequests in the will of Dr. M. L. Chaim and Dr. Benjamin Lord and is presented to the writer of a meritorious essay dealing with research in basic or clinical sciences. Dr. Kasle received it for the essay, "A Television Radiographic Evaluation of Periapical Osseous Radiolucencies," based on his Master's thesis.

A federal grant of \$195,351 has been received by the School of Dentistry to fund a new Dental TEAM (Training in Expanded Management) program. The program is designed to train 60 senior dental students each year in more efficient management of auxiliary personnel, in individual offices as well as in group practices.

According to Dr. James E. Vaught, Assistant Dean and Professor of Dental Auxiliary Education, a professional staff of 12 persons, including three dentists, a management consultant, two dental hygienists, and six dental assistants will operate the program under an initial two-year grant from the Department of Health, Education, and Welfare.

Each of the 60 students who enroll for this elective program will receive two weeks of instruction and one week of practical experience in the following subjects: Office design (including the purchase of equipment for a multiple-auxiliary office), interviewing applicants, evaluating auxiliaries, scheduling patients, and using computers in office management.

A TEAM clinic with six dental operating units and a staff of auxiliaries will be available in the Dental School for clinical applications of the program's practice concepts. Television, video tapes and a computer will also be used for student evaluation.

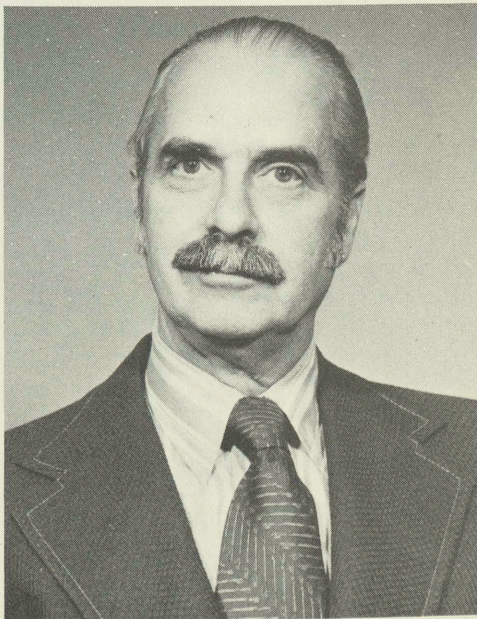
Dr. Donald R. Tharp, Assistant Professor of Dental Auxiliary Education, is Program Director.

Dr. Frank M. Ellis has accepted a full-time appointment as Associate Professor of Dental Auxiliary Education and Assistant

Director of the TEAM Program. Dr. Ellis, who is retiring from the U.S. Navy as a Captain, has served as Executive Officer and Associate Dean of the Naval Graduate Dental School at Bethesda, Maryland. He received his D.D.S. degree from the University of Southern California in 1945; the M.A. (History) from the University of San Diego in 1971, and his Ph.D. degree (History) is anticipated in 1976 from George Washington University in Washington, D.C.

Mrs. Linda A. Bonness has been appointed a full-time Instructor in the TEAM Program. Mrs. Bonness, who received the Dental Assisting Certificate from Indiana University School of Dentistry in 1974, graduated first in her class and won the Indianapolis District Dental Society Award for being the outstanding dental assistant student. She comes to our faculty after working for Dr. I. McCullough in private practice since the completion of her program. Her husband is a third year dental student.

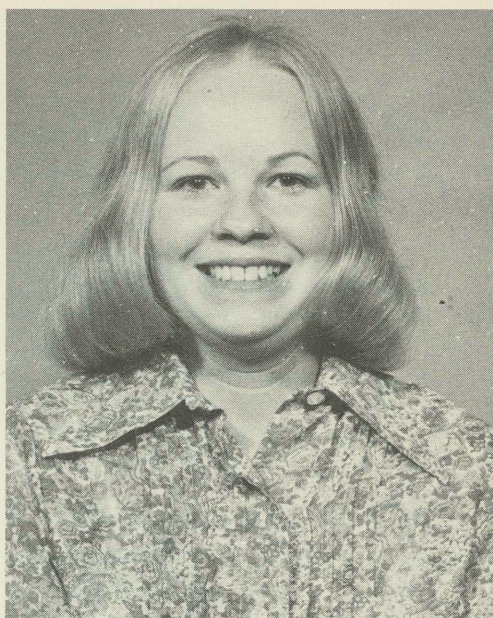
Mrs. Marcia L. Combs has joined the faculty as an Instructor in the TEAM Program. Mrs. Combs earned her Certificate in Dental Assisting from Wood High



Dr. Frank M. Ellis



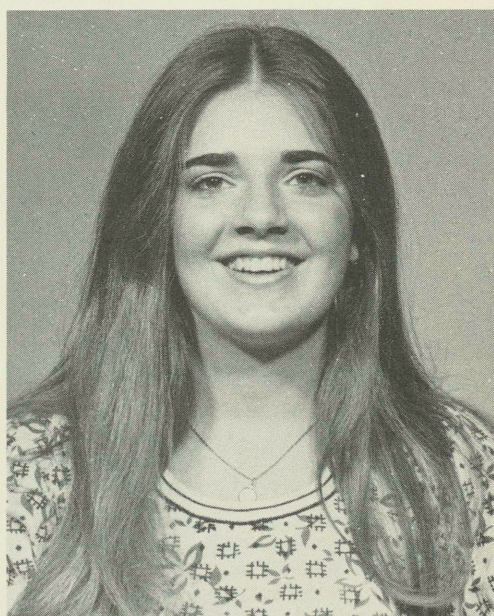
Mrs. Linda A. Bonness



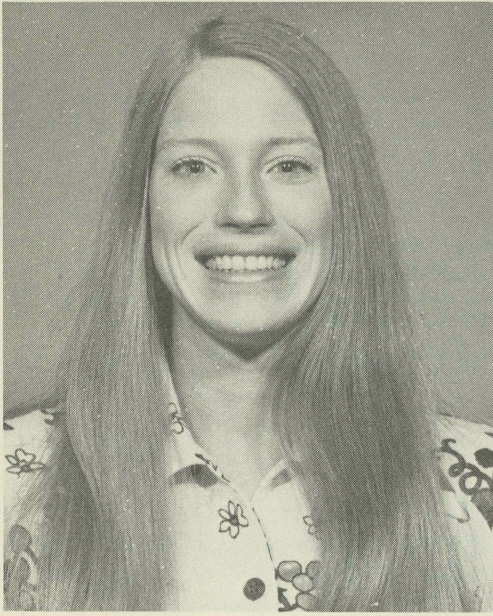
Mrs. Marcia L. Combs



Miss Martha B. Duncan



Miss Janet S. Langhans



Miss Susan J. Palmer



Mrs. Diana Stults



Miss Linda M. Vollmer



Mrs. Kathy Woodall

School in 1967. She has worked in private practice as a chairside assistant and has been employed in the Undergraduate Pedodontic Program since May, 1973.

Miss Martha B. Duncan, a 1973 graduate of the Dental Assisting program here, has been appointed a full-time Instructor in the TEAM Project. Miss Duncan worked in private practice for several months for Dr. Timothy B. Phillips, and since November, 1973, she has been employed in Undergraduate Pedodontics.

Miss Janet S. Langhans has accepted a full-time Instructorship in the TEAM Program. Miss Langhans, who received her A.S. degree in Dental Hygiene from Indiana University School of Dentistry in 1974, has had private office experience and formerly served as receptionist at Riley Hospital.

Miss Susan J. Palmer also has been appointed as an Instructor in the TEAM Program. Miss Palmer, who was awarded the Dental Assisting Certificate from Indiana University School of Dentistry in 1974, is a 1971 graduate of Purdue University, having received the B.A. degree in 1971, with a major in Spanish. In 1971-73 she worked as Administrative Assistant and Secretary in the Department of Medicine, Division of Infectious Diseases, at IUPUI.

Mrs. Diana Stults has joined the faculty as an Instructor in the TEAM Program. Mrs. Stults was awarded the A.S. in Dental Hygiene from Indiana University School of Dentistry in 1974. She ranked first in her class and graduated with highest distinction. Her husband is a fourth-year dental student.

Miss Linda M. Vollmer has been named to the position of full-time Instructor in the TEAM Program. Miss Vollmer earned her Certificate in Dental Assisting from Indiana University School of Dentistry in 1973 and has been employed in the Undergraduate Pedodontic Department since May of 1973. She has worked as a chairside assistant for both Dr. James Williams and Dr. Bruce Sahrbeck on a part-time basis.

Mrs. Kathy Woodall, who graduated from our Dental Assisting program in 1973, has been appointed an Instructor in the TEAM Program. Mrs. Woodall earned

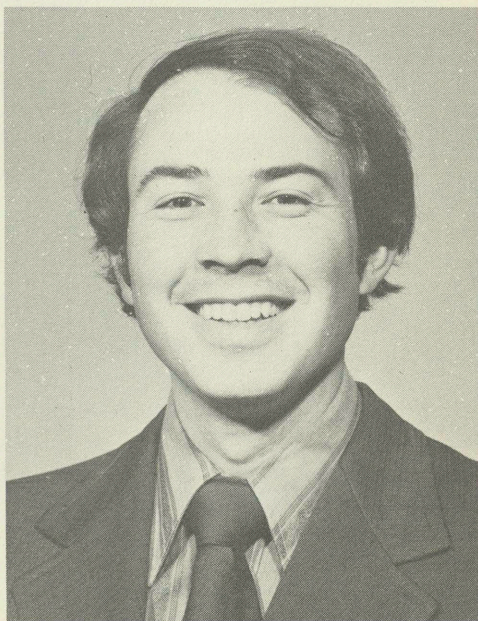
the Certificate in Dental Assisting from Indiana University in 1973. After graduation, she worked for Dr. Charles Kerkhove and since December, 1973, has been employed in the Undergraduate Pedodontic Clinic.

Other recent faculty appointments include the following:

Dr. William R. Adams has accepted a full-time position as Assistant Professor of Endodontics. Dr. Adams received his D.D.S. degree from Ohio State University in 1969, graduating cum laude. He was awarded the M.S.D. degree from Indiana University School of Dentistry in 1974, having served as Resident at the Veterans Administration Hospital here. Before coming to Indiana, Dr. Adams served an internship in the Air Force.

Dr. Charles J. Goodacre, who received the M.S.D. degree from the Indiana University School of Dentistry in 1974, has been appointed to a full-time position as Assistant Professor of Fixed and Removable Partial Prosthodontics. Dr. Goodacre earned his D.D.S. degree from Loma Linda University in 1971.

Dr. Suteera Hovijitra, who expects to receive the M.S.D. degree from the In-



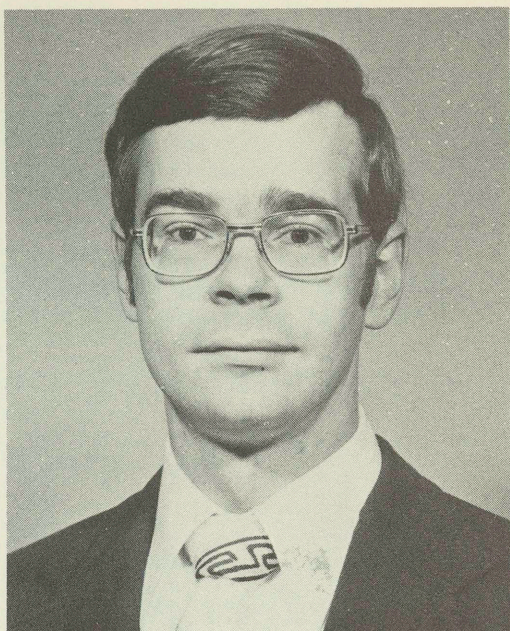
Dr. William R. Adams

diana University School of Dentistry in 1975, has been appointed Assistant Professor in the Department of Fixed and Removable Partial Prosthodontics. Dr. Hovijitra is a native of Thailand and holds the D.D.S. degree from Mahidol University in that country. Dr. Hovijitra has been given the responsibility of supervising the ceramics laboratory.

Mrs. Laurel H. Jeris, who received her R.D.H. from the University of Michigan in 1971 and her Bachelor's degree from the same university in 1974, has joined the faculty as a full-time instructor in Dental Hygiene.

Dr. Roger Dee Meyer has been appointed an Assistant Professor of Operative Dentistry (full-time). Dr. Meyer, who earned his D.D.S. degree from Ohio State University in 1967, has been in private practice in Dayton, Ohio since 1967.

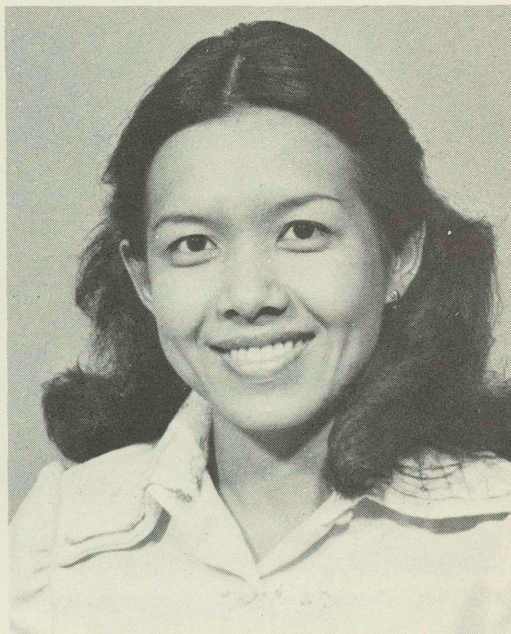
Dr. Gary L. Plymale, a 1974 graduate of our dental program, has accepted a full-time appointment as Assistant Professor of Complete Denture and Fixed and Removable Partial Prosthodontics. Dr. Plymale has had six years' experience in



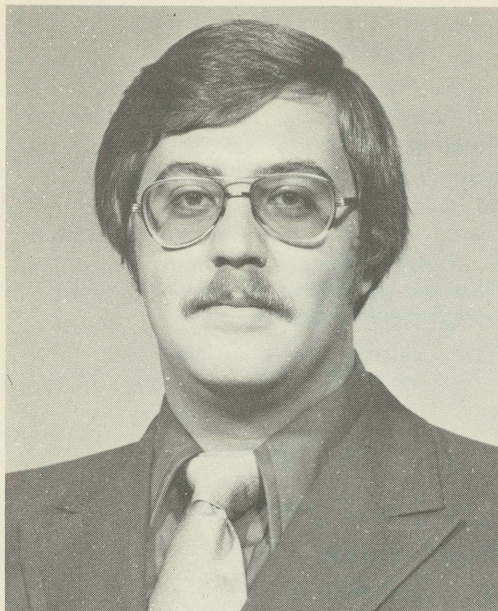
Dr. Charles J. Goodacre



Mrs. Laurel H. Jeris



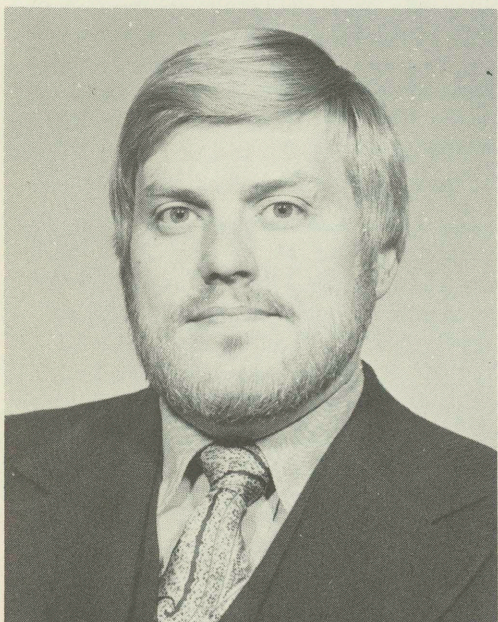
Dr. Suteera Hovijitra



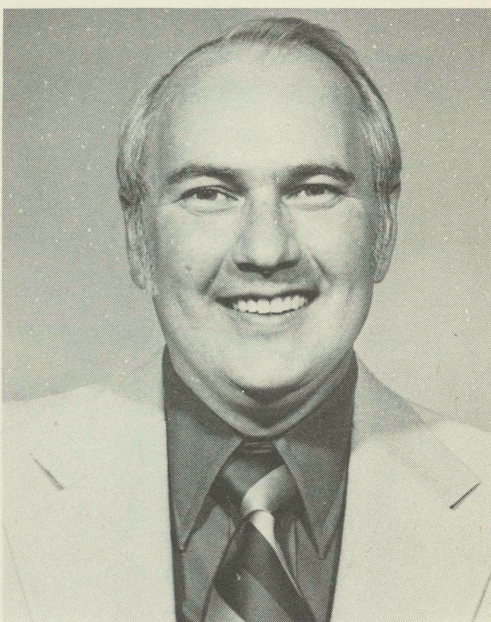
Dr. Gary L. Plymale



Miss Shermie L. Schafer



Dr. Jack E. Showley



Dr. Roger Dee Meyer

teaching laboratory technology in the service and as a student/employee.

Miss Shermie L. Schafer has joined the full-time faculty as an Instructor of Dental Hygiene. Miss Schafer, a 1963 graduate of our Dental Hygiene Program, received her B.S. in Public Health Dental Hygiene from Indiana University in 1965. She has been in private practice since that time.

Dr. Jack E. Showley has accepted appointment as an Assistant Professor of Dental Auxiliary Education. His major responsibilities will be the offering of expanded duty instruction for dental hygiene and dental assisting students at the Indianapolis campus. Dr. Showley former-

ly served as a part-time instructor in the Crown and Bridge Department.

Miss Gail F. Williamson has accepted a full-time position as Instructor of Dental Auxiliary Education, with the primary responsibility of teaching radiology to dental auxiliary students. Miss Williamson was awarded the A.S. in Dental Hygiene from the Indiana University School of Dentistry in 1974. She has been employed by both Dr. Scott H. Polizotto and Dr. Alan E. Corns, of Valparaiso.

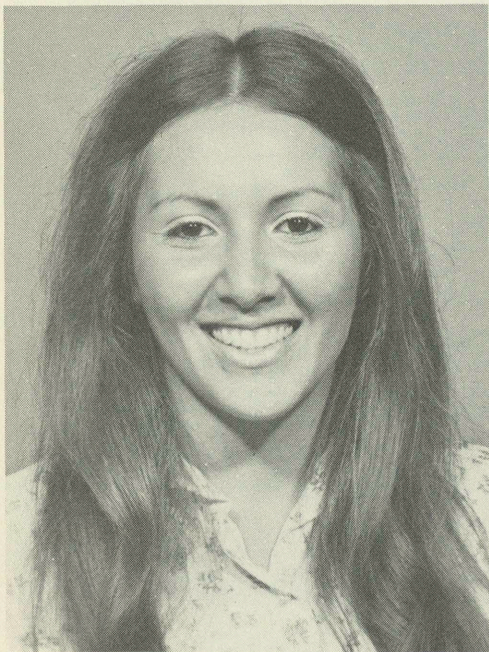
The faculty, staff and students of the School of Dentistry cordially invite our former students and their friends to visit their school and learn first hand of the changes that are occurring.

Honors Presented To Dr. M. K. Hine

Dr. Maynard K. Hine, who retired as chancellor of Indiana University - Purdue University at Indianapolis in the fall of 1973, was honored recently by the Federation Dentaire Internationale, the international dental association, for his extensive service to that organization, by being elected to the F.D.I.'s List of Honor. This list includes only five other Americans.

Dr. Hine also received the John R. Callahan Award Medal for 1974, which was given at the Ohio State Dental Association's annual meeting. This well-known award is given to memorialize Dr. John R. Callahan, who carried on an active dental research program while serving as secretary and then president of the Ohio State Dental Association and carrying on an active dental practice. The award has been given since 1922 to a total of fifty-two individuals. Dr. Hine, Dr. Ralph W. Phillips, and Dr. Howard R. Raper are among those to be so honored.

Dr. Hine has also been named to the Governor's Energy Commission. In addition he recently received honorary membership in the American Dental Society of Ireland.



Miss Gail F. Williamson

Awards Given at Honors Program

The Indiana University School of Dentistry Honors Program was conducted on May 19, 1974, with Dean Ralph E. McDonald presiding. The following awards, certificates and honors were given.

The Anatomy Award to the freshman who made an outstanding record in anatomy (\$50 and a certificate, check by OKU) was presented to Mr. Robert E. Hindman; the Dr. Ert J. Rogers Memorial Award in Crown and Bridge was presented to Dr. Allan R. Nowakowski; the John W. Geller Award in Research was presented to Dr. Raymond G. W. Kubisch; the American Association of Endodontists Award of a certificate to the senior showing interest and proficiency in the field of endodontics went to Dr. Edward G. Prusz; the Indiana Society of Oral Surgeons—Glenn J. Pell Memorial Award (top 10% in oral surgery and upper 1/3 class, must have internship) was presented to Dr. Russell P. Beckett; the Great Lakes Society of Oral Surgery—award to outstanding seniors went to Dr. Timothy J. Shambaugh.

The American Academy of Oral Pathology Award, presented to the dental student who has shown the most interest, accomplishment, and promise in the field of oral pathology, plus a subscription to the Journal of Oral Surgery, Oral Medicine and Oral Pathology was given to Dr. Timothy J. Shambaugh. The C. V. Mosby Awards for scholastic excellence in: Oral Facial Genetics to Dr. John R. Eastman; Preventive Dentistry to Dr. Timothy J. Shambaugh; Operative Dentistry to Dr. Allan R. Nowakowski; Maxillofacial Prosthetics to Dr. James A. Sarbinoff and Dental Hygiene to Miss Jane M. Brunette. The Rossya Kauffman Memorial Award in Dental Hygiene for proficiency in patient education was presented to Mrs. Martha Bredle Goebel; The A. Rebekah Fisk Award (one year membership in state and national organization) by Indiana State Dental Hygienists Association to the dental hygienist showing the greatest proficiency in clinical

practice during her senior year went to Miss Cynthia Shannon; and an Award for proficiency in radiology from the American Academy of Dental Radiology was presented to Dr. William B. Leibow. A certificate from the American Academy of Oral Medicine for Achievement; Proficiency, and Promise in the field of Oral Medicine was won by Dr. Steven L. Bricker.

The "What's Your Interpretation" Contest in Radiology, sponsored by OKU was presented to (1st) Dr. Raymond G. W. Kubisch, (2nd) Dr. Gerald L. Ackerman and (3rd) Dr. William H. Stalker. The American Academy of Periodontology Award of one year's subscription to the Journal of Periodontology for proficiency in periodontology went to Dr. Sidney L. Spector; an Award for achievement in periodontics, a plaque from the Lactona Corporation plus a check for \$100, to Dr. John B. Lehman, Jr.; an Award and plaque of the Indiana State Society of Pedodontics (\$50) for the senior who plans to continue in a graduate pedodontic program to Dr. Jack J. Reynolds, Jr. A Certificate of Merit from the American Society of Dentistry for Children and membership in the Society for one year plus a one year subscription to the Journal of Dentistry for Children, and a cash award of \$25 from the Indiana Unit were awarded to Dr. Raymond G. W. Kubisch.

An award of a certificate to the senior showing interest in development of the orofacial complex was presented from the American Association of Orthodontists to Dr. Steven T. Short.

Senior Essay Awards were as follows: First, The Block Award (\$100) to Dr. Thomas G. Rosenbarger, "Ectopic Eruption of the Maxillary First Permanent Molar: A Review of the Literature and Report of a Case."; Second (\$50) to Dr. Raymond G. W. Kubisch, "Space Management in the Child Patient: A Report of Two Cases."; Third (\$25) to Dr. H. Eric Zeller, "Presentation of a Case of Nursing Bottle Caries."; and Fourth (\$25)

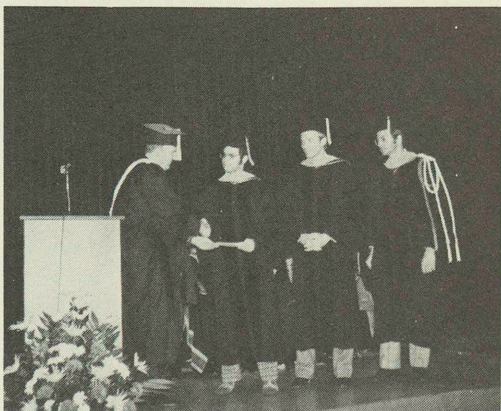
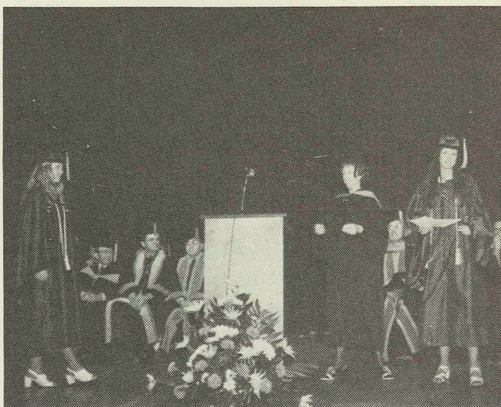
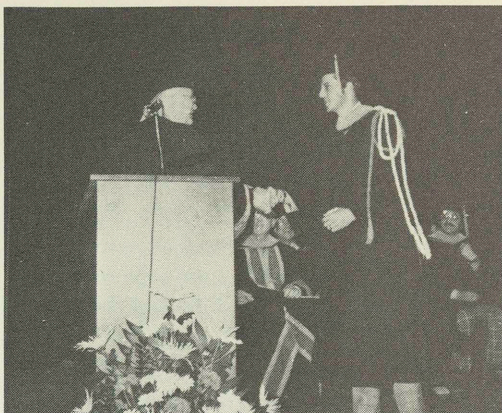
to Dr. Ronald R. Schlimmer, "Summer Clinic in Haiti."

Table Clinic Awards were as follows: First Place (\$50) to Dr. Allan R. Nowakowski, "Vitreous Carbon Implantology: Surgical and Restorative Procedures."; Second Place to Dr. Robert R. Canida, "Relating Articulation to Occlusion." The Best Dental Hygiene Table Clinic (\$50 divided equally) to: Mrs. Susan Jane Elliott, Mrs. Diana Joan Stults, Mrs. Jerrel L. Fair, Miss Jane M. Brunette and Miss Corinne Krack, for clinic entitled: "Are You Having A Breakdown? Marginal Failure of Dental Amalgam."

The School of Dentistry Alumni Association plaque (the Maynard K. Hine Award) plus membership in the Alumni Association was presented to Dr. Raymond G. W. Kubisch; the Harriett F. Hine Award presented to a dental hygienist went to Mrs. Elizabeth A. Young; the International College of Dentists Award for outstanding achievement during his years of dental study to Dr. Russell P. Beckett; the American College of Dentists (FACD) plaque, plus \$50 cash award to the student showing the most improvement since his freshman year, to Dr. Allan R. Nowakowski; an Award of plaque and \$50 bond by the Indiana Dental Association in recognition of services to organized dentistry through student A.D.A. to Dr. Steven L. Bricker; a plaque from the National Chapter of Alpha Omega to the student who earned an outstanding record for four years of dental study at Indiana University School of Dentistry to Dr. Raymond G. W. Kubisch.

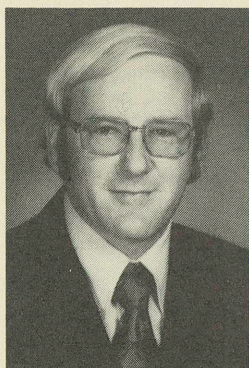
Sigma Phi Alpha, Dental Hygiene Honorary Society, certificates and pins to Mrs. Diana Joan Stults and Miss Donna L. Beck; the Omicron Kappa Upsilon certificate to the sophomore student who made an outstanding record in the freshman year, plus a \$50 award to Mr. Robert E. Hindman. The Omicron Kappa Upsilon certificates were presented to Dr. Gerald L. Ackerman, Dr. Robert J. Allen, Dr. Russell P. Beckett, Dr. Raymond G. W. Kubisch, Dr. William B. Leibow, Dr. Lynn S. McConnell, Dr. James V. Macri, Dr. Myles Miyasato, Dr. Timothy

(Continued on Page 66)

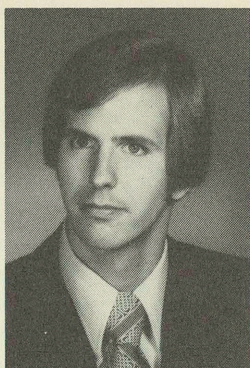


Pictures taken at
Honors Day Program

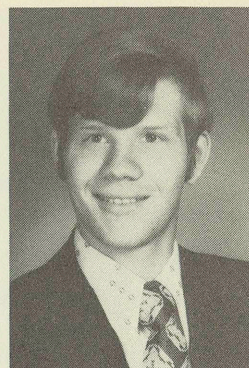
1974 GRADUATES



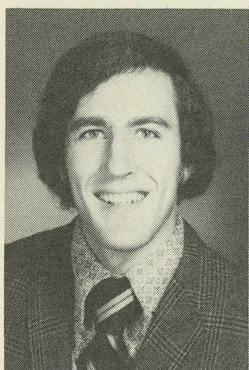
G. L. Ackerman



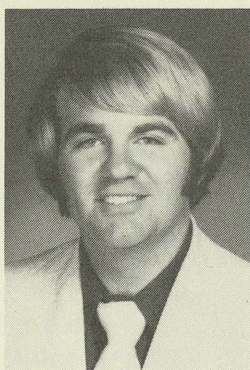
George Adams



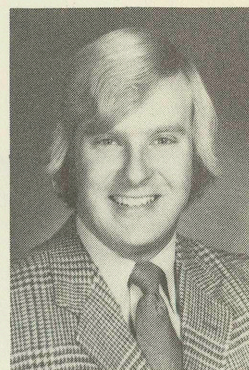
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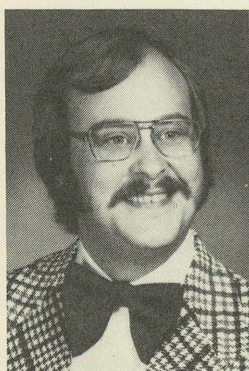
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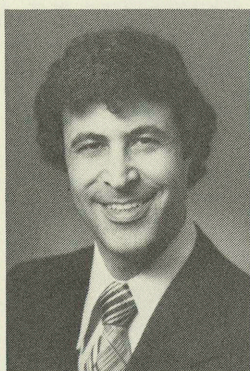
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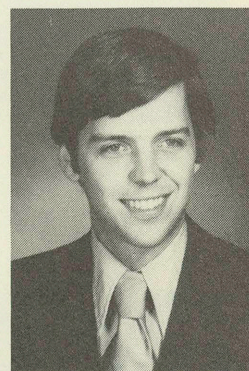
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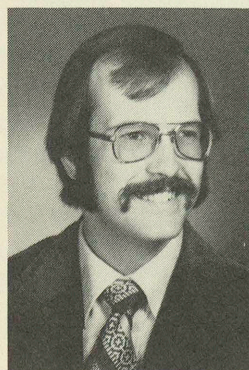
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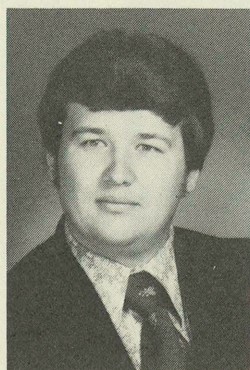
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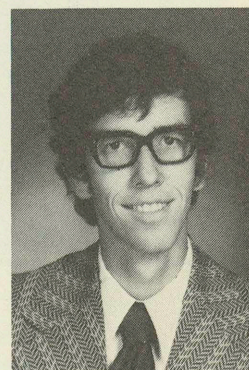
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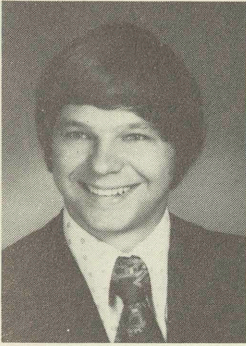
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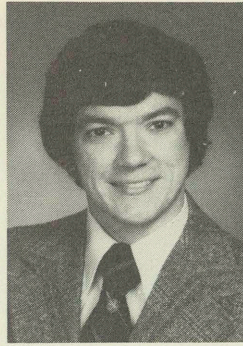
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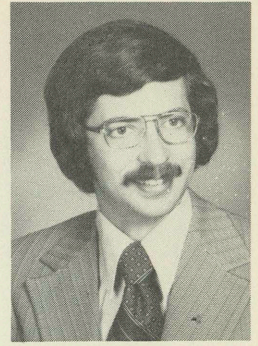
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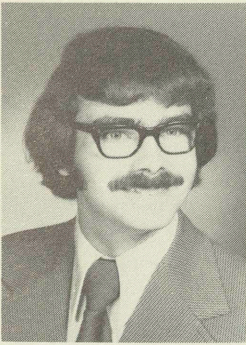
Wade Carnes



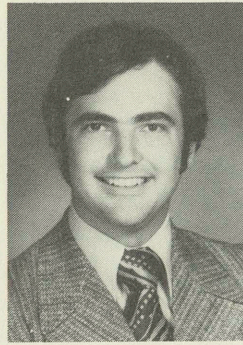
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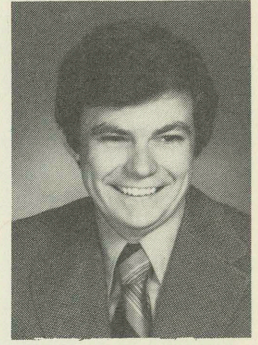
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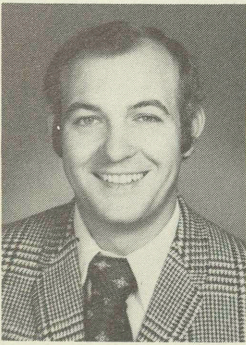
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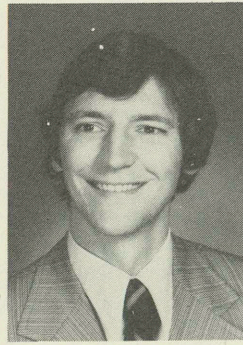
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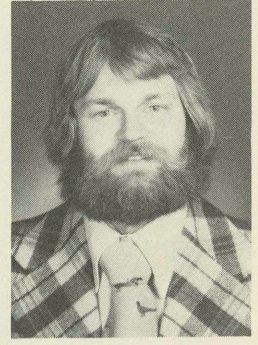
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Donald Drone



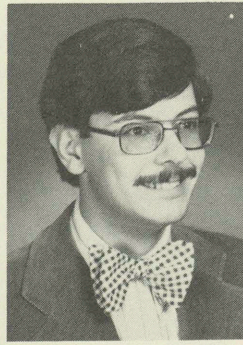
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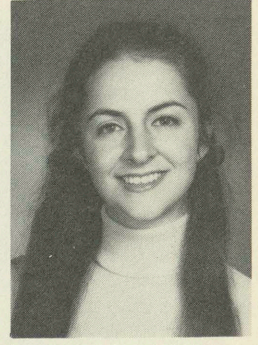
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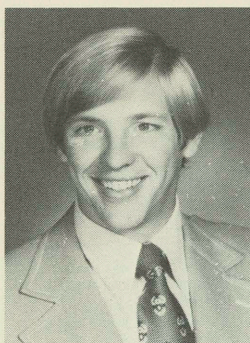
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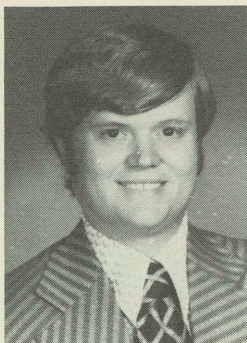
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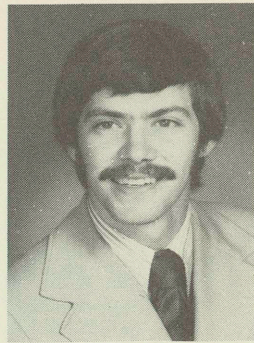
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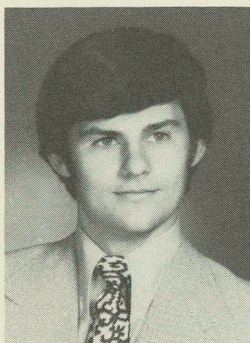
Theodore Gehrig



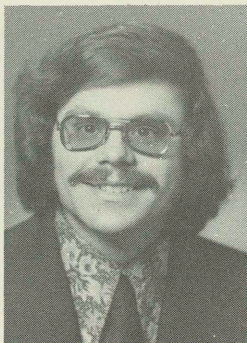
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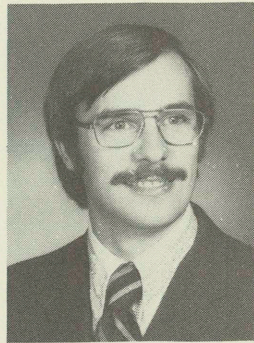
David Giltner



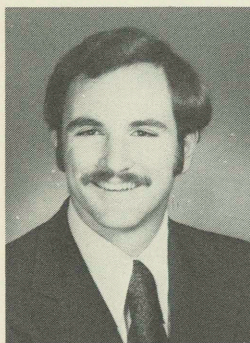
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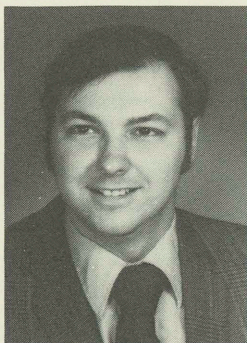
Jack Harshman



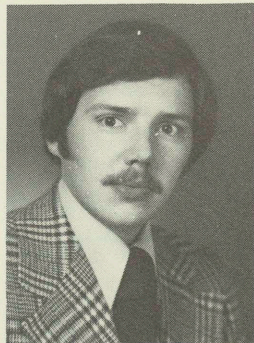
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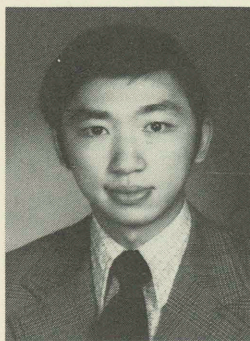
James Henry



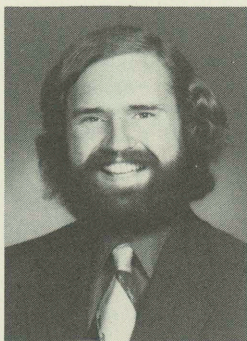
R. Randall Herndon



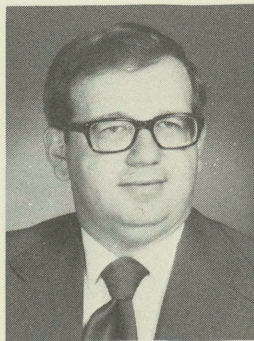
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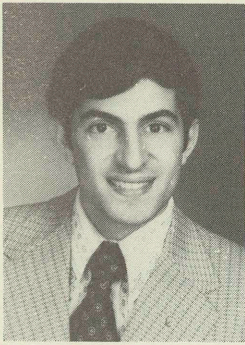
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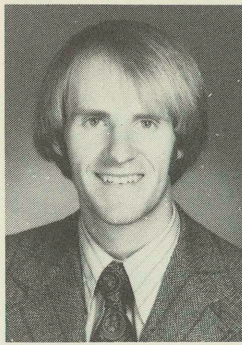
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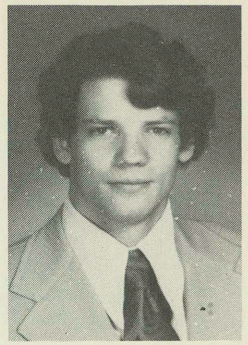
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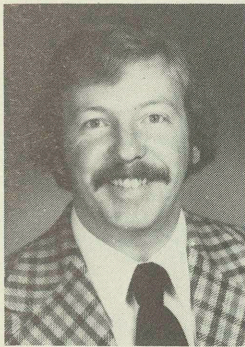
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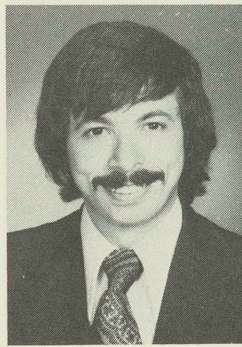
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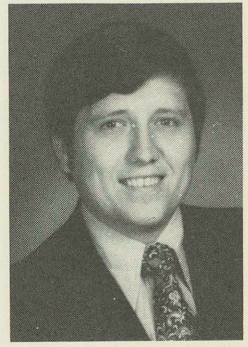
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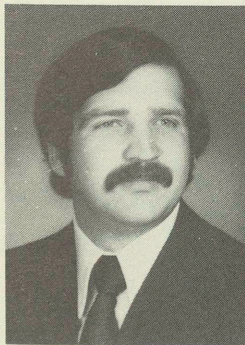
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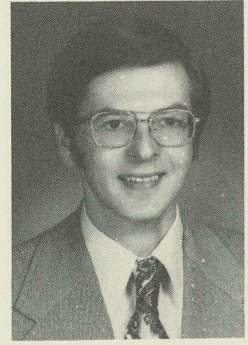
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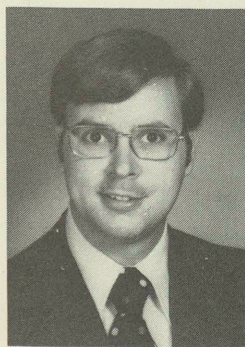
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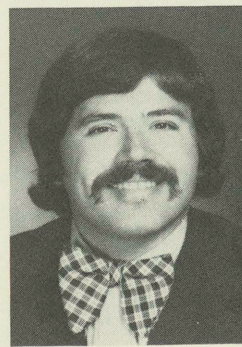
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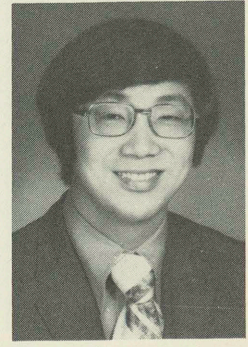
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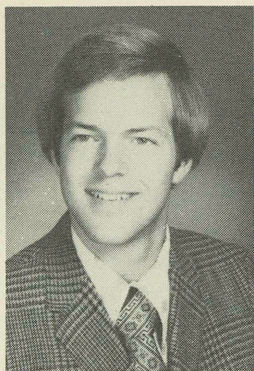
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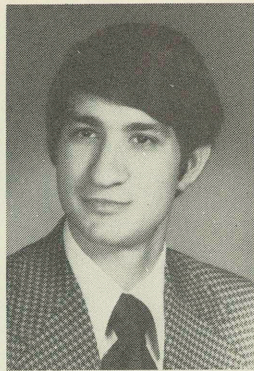
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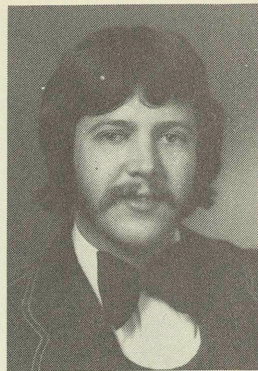
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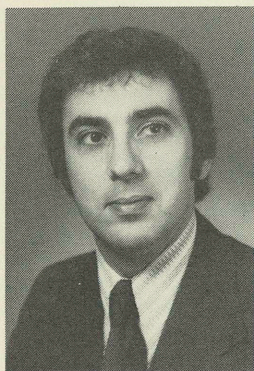
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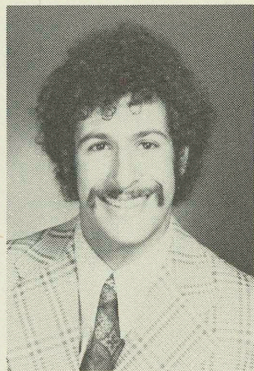
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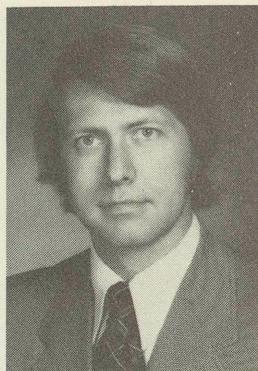
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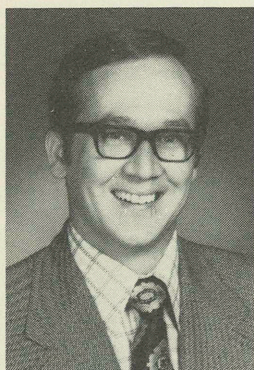
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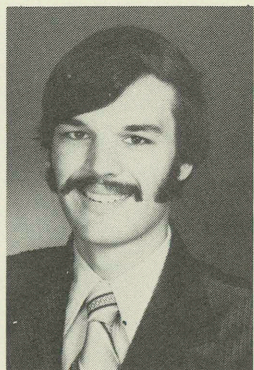
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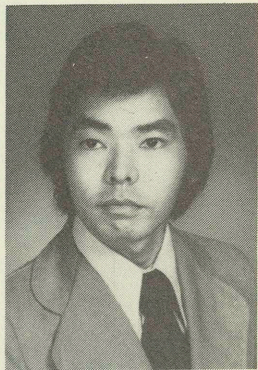
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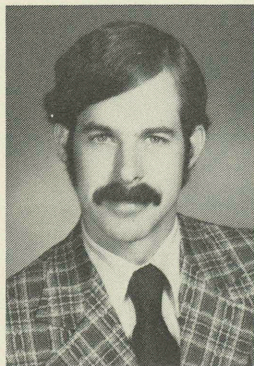
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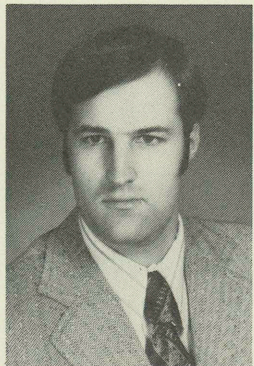
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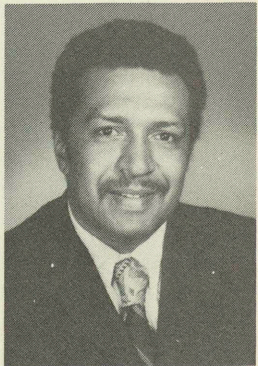
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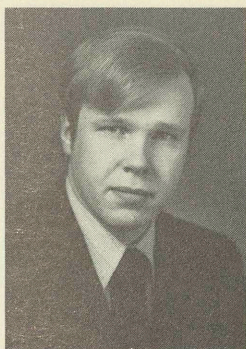
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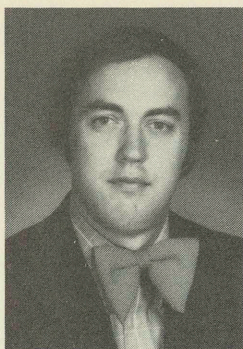
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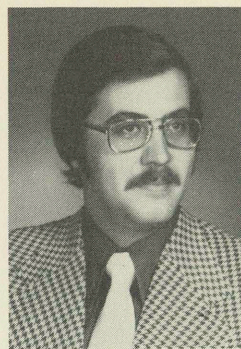
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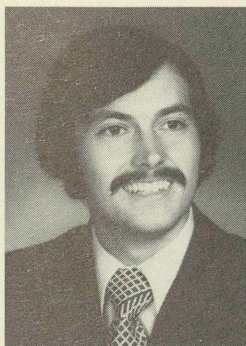
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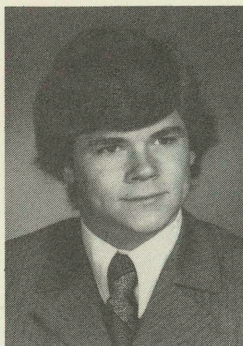
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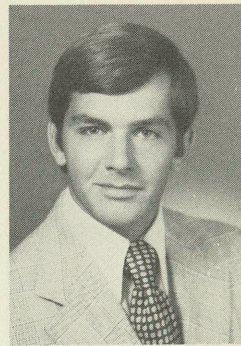
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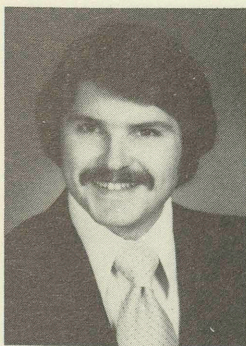
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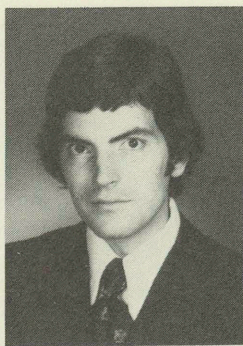
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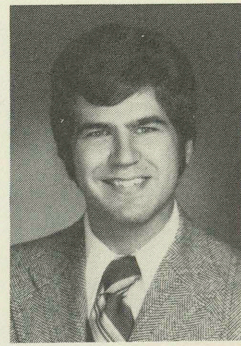
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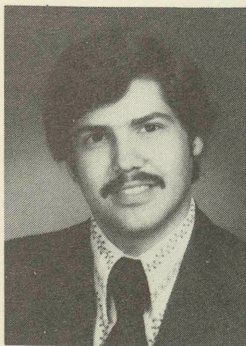
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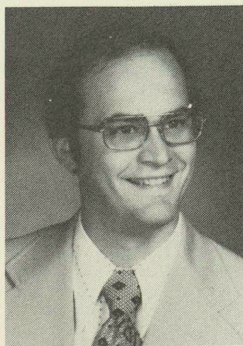
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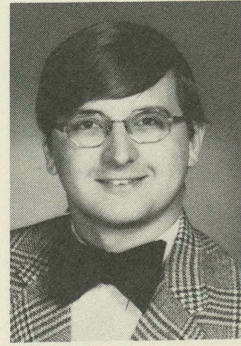
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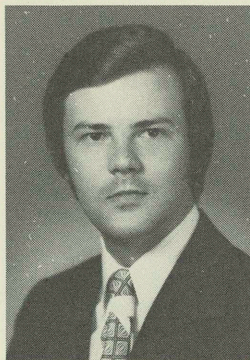
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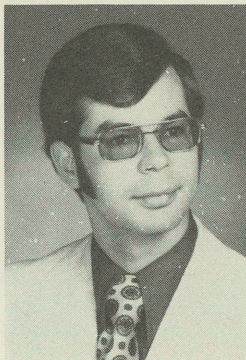
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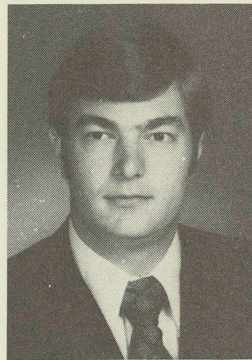
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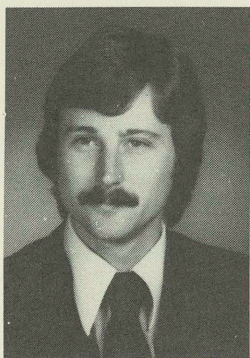
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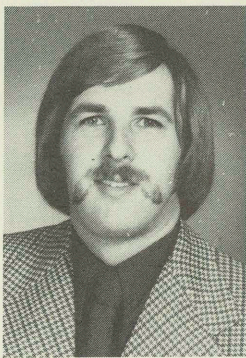
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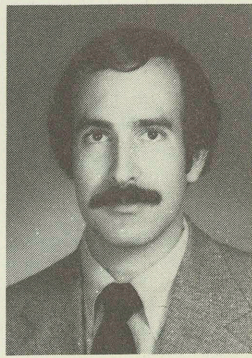
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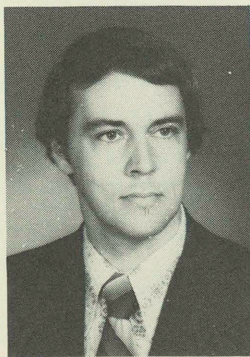
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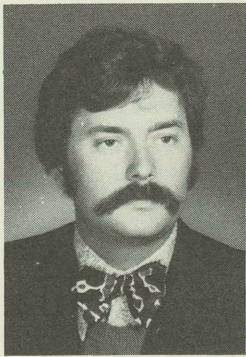
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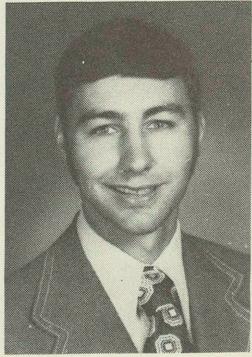
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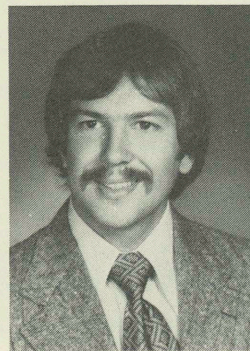
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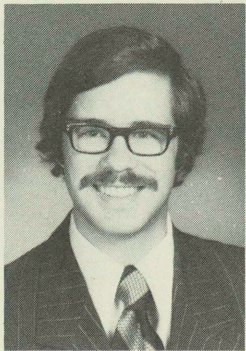
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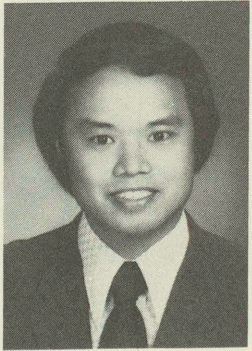
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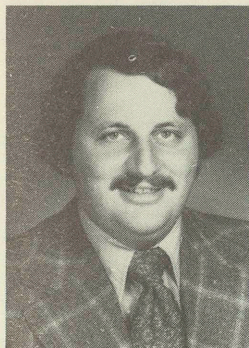
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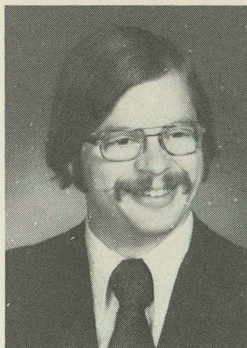
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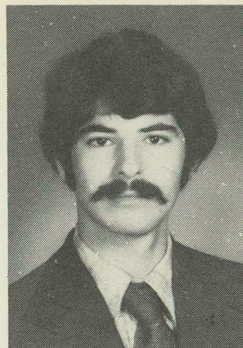
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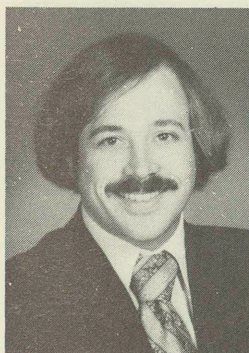
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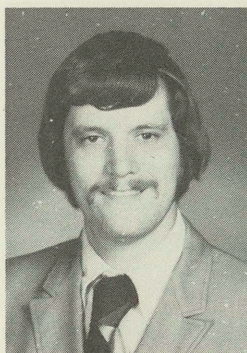
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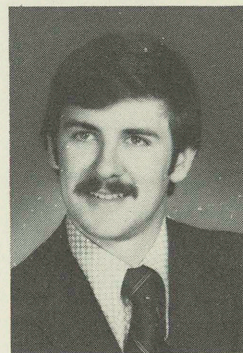
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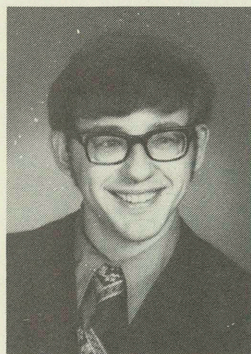
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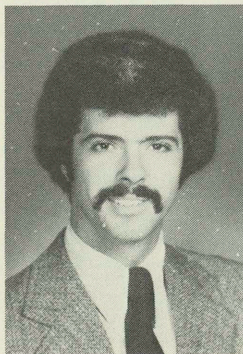
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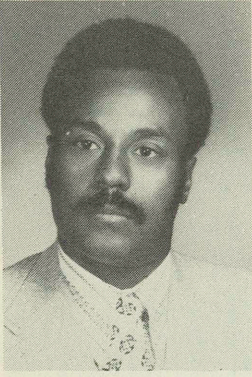
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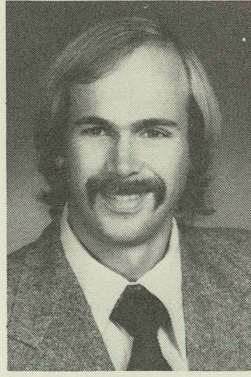
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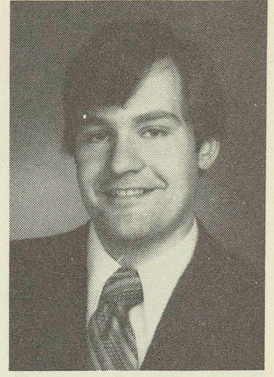
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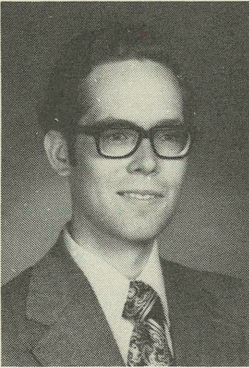
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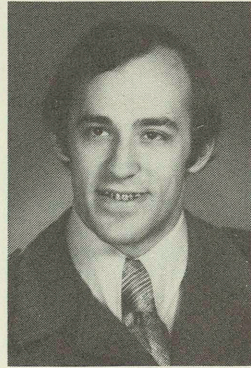
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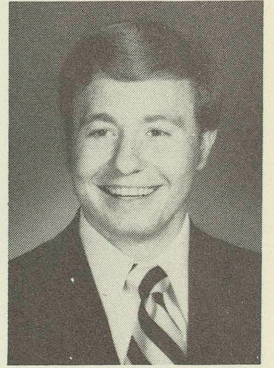
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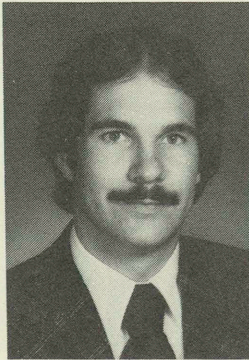
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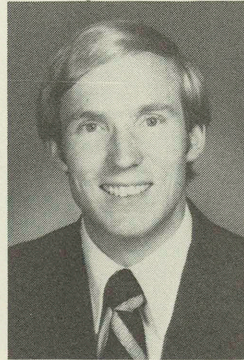
Mitchell H. Wohlmuth



Stanley Young



Stephen Zeck



H. Eric Zeller

Dental Auxiliary Education

James E. Vaught, Assistant Dean for Dental Auxiliary Education

Forty-five E.D.A.'s (Expanded Duty Auxiliaries) graduated from Indiana University School of Dentistry in May, 1974. For the first time in Indiana, auxiliaries were available for employment who could provide skills in addition to those traditionally assigned. The total number was composed of thirty three dental hygienist graduates and twelve dental assistant graduates. The students received approximately 100 hours of laboratory and 30 hours of clinical instruction in the following areas:

- to place and remove a rubber dam for routine operative procedures.
- to make preliminary impressions for study models using irreversible hydrocolloid materials.
- to pour and trim the diagnostic models suitable for patient education.
- to select, place, and remove the appropriate matrix band and retainer for a Class II Amalgam restoration.
- to insert a Class I, II, or V amalgam restoration including its proportioning, trituration, condensation, carving, and finishing.
- to select and place the appropriate matrix for a Class III silicate restoration.
- to insert a Class III, or V Silicate restoration including its proportioning, mixing, placement, and finish.
- to select and place the appropriate matrix for a Class III resin restoration.
- to insert a Class III or V resin restoration including its proportioning, mixing, placement, and finish.

An important benefit of this training program for auxiliaries is that each senior dental student experienced an average of six operative clinic assignments which involved the utilization of an E.D.A. (Expanded Duty Auxiliary). Initial evaluation and comments from the dental students have been favorable and enthusiastic.

Dr. Donald Tharp developed the program and provided the instruction. Dr.

Norris Richmond coordinated the clinical application portion of the training. Dr. Tharp has expressed appreciation for the tremendous support he received from the departments of Operative Dentistry, Basic Dental Sciences, Oral Diagnosis, the Director of Clinics, the Director of the Dental Assisting Program, and the Director of the Dental Hygiene Program. Sincere appreciation is extended to Dr. Tharp, the students, and all those who cooperated to make this much needed program a success.

With the initial E.D.A. unit of instruction developed at the School of Dentistry the efforts this year will be to initiate similar programs for auxiliary education students in Fort Wayne, South Bend, and Evansville. The next step then will be to initiate a Continuing Education Course for those who are already practicing.

It is a pleasure to announce the initiation of a Dental TEAM Program (Training in Expanded Auxiliary Management) at the School of Dentistry. This program will give senior dental students the opportunity to study the management aspects of using multiple auxiliaries. Dr. Donald Tharp has been appointed Dental TEAM Program Director and he is already busy with the new responsibilities. A future edition of the Alumni Bulletin will include more about this new program.

Congratulations to the Laboratory Technology Program at Fort Wayne and to the Dental Assisting Program at Indianapolis. Both programs were given full approval (accreditation) by the Council on Dental Education of the American Dental Association.

INDIANAPOLIS CAMPUS

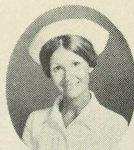
Dr. Jack Showley has been appointed to the faculty as an Assistant Professor of Dental Auxiliary Education. We welcome Dr. Showley who has assumed the respon-



DENISE AYERS



DONNA BECK



MARTHA BREDLE



JANE BRUNETTE



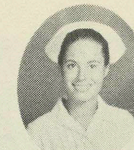
MARGARET BURKE



MARCIA BURROWS



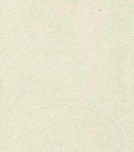
DEBORAH COYLE



MARCIA DOWDEN



MARIA DEXAS



JERREL FAIR



SUSAN ELLIOTT



LEANNA JONES



PAT HUMPHREY



LEANNA JONES



DIANE MARTIN



MARSHA MCCULLOUGH



DEBORAH ROBERTSON



KATHY RUSSELL



KATHRYN SEXTON



CYNTHIA SHANNON



BETSY SHAWVER



JACQUALINE STEVENS



PENNY TIEMANN



GAIL WILLIAMSON

Indiana University

School of Dentistry Dental Hygiene

DIANA STULTS
Vice-PresidentELIZABETH YOUNG
PresidentLINDA WILLIAMS
Secretary-Treasurer

GLORIA GADDY



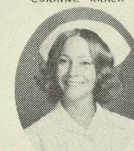
CAROLYN HOKE



CORINNE KRACK



JANET LANGHANS



ROSEMARY NAGY



MARY ANN FAGURKO

Class of 1974 Indianapolis, Indiana



SUSAN BRANCHEAU



KATHLEEN FARIS



DIANA HAWKINS



DEBORAH HOPKINS



SUSAN PALMER



NANCY KELLEY
Vice-President



LINDA BONNESS
President



JULIANNE DEZELAN
Secretary-Treasurer



JEANNE COOK



MARY FARRIN



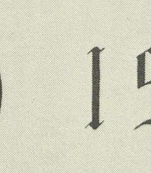
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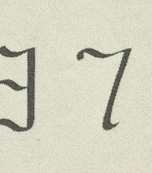
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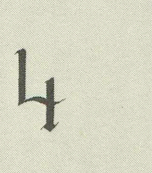
DIANA LAMBERT



SUSAN MORRIS



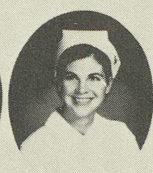
LINDA OSTERLING



DE ANN PALENIK



SUSAN PALMER



SALLY PHILLIPS



JUDITH PIERSON



KATHRYN RAPALA



CONNIE ROWE



PAULA SCHLUNDT



JULIE SYMES



CATHERINE TURBETT



BONNI WOESSNER

Dental Assisting Program Indiana University School of Dentistry

1974

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sibility for the continued development of the E.D.A. (expanded duty auxiliary) instruction. Dr. Showley brings to the staff a private practice experience utilizing multiple auxiliaries and he will be developing a molecular instructional program using single concept video tapes. Hopefully this format will allow a rapid initiation of a continuing education program in expanded functions.

Dental Hygiene

Mrs. Suzanne S. Boundy, Dental Hygiene Program Director announces the appointment of the following new faculty members:

Miss Shermie Schafer, R.D.H., B.S., Instructor of Dental Hygiene. Miss Schafer is an Indiana University graduate and comes to the faculty from private practice in Indianapolis.

Mrs. Laurel Jeris, R.D.H., B.S., Instructor of Dental Hygiene. Mrs. Jeris comes to Indiana University from the State of Michigan and is a graduate of the University of Michigan.

Miss Pam Hopkins, R.D.H., B.S., Instructor of Dental Hygiene. Miss Hopkins joins the faculty on a part time basis and is a graduate of Indiana University.

It is a pleasure to announce the following recipients of honors and awards for the 1974 graduation:

Honors 1974 Graduation

Diana J. Stults—High Distinction

Donna Lynn Beck—Distinction

Gloria Jane Gaddy—Distinction

Susan J. Elliott—Distinction

Martha Bredle Goebel—Rossya Kaufman Award

Cynthia Shannon—A. Rebekah Fisk Award

Jane Brunette—Mosby Scholarship Book Award

Diana Stults—Membership in Sigma Phi Alpha

Donna Lynn Beck—National Dental Hygiene Honor Society

Dental Assisting

Mrs. Marjory H. Carr, Dental Assisting Program Director, reports an exciting year has come to a close for the Dental

Assisting Program in Indianapolis, when we graduated 24 Certified Dental Assistants.

In May, Dean Vaught was notified by the Council on Dental Education that our program has been fully accredited.

An elective post-graduate course in Expanded Duties was offered this summer for the first time for Dental Assistants and the following were awarded Certificates for successfully completing the course:

Linda Bonness

Juanita Chisler

Susan Kantz Funke

Betty Hollan

Judy Holt

Paula Schundt Mansfield

Susan Morris

Susan Palmer

Sally Phillips

Judy Pierson Pickett

Julie Symes

Catherine Turbett

Awards

Linda Bonness—Outstanding Dental Assistant Award—Indianapolis Dental Assistants Society

Susan Kantz Funke—Indiana Dental Assistants Association Student Poster—1st Place

Linda Bonness—Indiana Dental Assistants Association Student Competitive Paper—1st Place

Sally Phillips, Susan Palmer, Linda Bonness and Paula Schlundt Mansfield—Indiana University School of Dentistry Table Clinic

Two members of the 1974 class have had articles published in the *Dental Assistant* Journal of the American Dental Assistants Association—Linda Bonness and Linda Osterling.

Dean's List

1st semester

Linda Bonness

Linda Osterling

Catherine Turbett

2nd semester

Linda Bonness

Linda Osterling

Connie Rowe

Susan Palmer and Linda Bonness will join the Indiana University School of Dentistry faculty as Instructors in the TEAM Program, October 1.

Many milestones have been reached in the two years the Dental Assisting Program has been offered at the School of Dentistry. This year we accepted a class of 30 and two special students. Perhaps the most significant advance is that students of Dental Assisting now are fully enrolled at Indiana University and will receive 15 hours of credit per semester. A Bachelor of Science degree in Health Occupations Education is also available for those who wish to pursue a degree.

INDIANA STATE UNIVERSITY EVANSVILLE

Gordon E. Kelley, Director

The Evansville campus programs are now beginning their fourth year of instruction and are looking forward to another year of challenges. Many small problems and changes continue to come up but with our flexible faculty, we have been able to present an acceptable solution to each.

We have been so flexible that the supervisors of both of our programs found new opportunities elsewhere and we wish them both much luck in the future. Lois Van Meter, Supervisor of Dental Assisting, has taken a new position as Supervisor of the Dental Assisting program at Ferris State College in Big Rapids, Michigan. This program has an enrollment of nearly 100 students and will be a different challenge to Miss Van Meter. Mrs. Nancy Heavin has assumed the position of Supervisor for the next year and already is busy making decisions. Nancy was formerly employed half-time in our program as an instructor. The part-time vacancy has not been filled yet, but we have had several applications.

Miss Kathye Ziegler has left our employ to return to practice in Florida. Kathye is presently preparing to take the Florida Boards and has already left Evansville. Mrs. Jeanne Bippus has assumed the position as Supervisor of Dental Hygiene. Jeanne was formerly employed

as Assistant Supervisor, and unfortunately, will be leaving next year because her husband graduates from I.S.U.E. and will be taking a job in the East. The position vacancy has not been filled at this time.

Sixteen Dental Assisting students graduated in May and we were very pleased to learn that they all passed the Certification examination. Eighteen new students were selected for the new class this year after the action of the Admissions Committee.

Our second class of thirteen Dental Hygiene students graduated in May and went many different ways. Twelve of these girls took the Indiana Board and were successful. The new fall class consists of 13 girls and our first male student. We are looking forward to a new and challenging year.

We have been notified that the Council on Dental Education will make their second site visit in February, 1975, so this put a new bit of enthusiasm into our teaching program.

DENTAL AUXILIARY EDUCATION FORT WAYNE

George Smith, Director

Growth and change are the key words in the Dental Auxiliary Education Department in Fort Wayne. A busy and productive year has just passed. In spite of many problems (not the least of these included an accreditation review and change in directors), we made it through and I believe we did a good job. One which would have truly been impossible without the strong support of the staff and faculty. I wish to extend my personal thanks and appreciation to all who were involved.

The coming year should be just as exciting, but not as problematic. There will be many changes coming up, some of which will follow in the news of the individual programs. However, one major event of the new year is the arrival of the new "Superchancellor." The Dental Department welcomes Chancellor Donald Schwartz to Fort Wayne and looks forward to working with him. We also wish retiring Chancellor Broyles the best

of everything in his new role as "retiree." We really don't expect him to retire completely, but more likely, just a change in pace. Our congratulations to Dr. Broyles upon receiving the Distinguished Service Award from the I.U. School of Dentistry Alumni Association. The award is justly deserved as evidenced by the growth and success of the dental programs at Fort Wayne. Dr. Broyles was directly responsible for much of it.

Dental Assisting

A full class of 30 students is expected on board in the Dental Assisting Program. The task of selecting the class becomes more difficult each year due to the increase in number of applicants. We want to thank the members of our Advisory Committee for their assistance with the interviews.

The laboratory facilities of the Dental Assisting Program are finally completed and will now accommodate all 30 students. This is a welcome change and should make scheduling of classes much easier, especially as we prepare for the inclusion of expanded duties among our courses.

We will truly miss Mrs. Connie Copp, as she retires from our program due to pregnancy. She was a real asset to the Dental Department. Her replacement is Miss Colleen Smith, a dental assistant who formerly worked in the office of Dr. Phillip E. O'Shaughnessy. We welcome Colleen and look forward to a productive year.

Dental Laboratory Technology

The Dental Laboratory Technology Program is now going into its third year. Last spring we graduated our first class of students from the program. This fall we have accepted the twenty-student capacity and will have sixteen students continuing into their second year.

It is worth noting that we were visited by the Council on Dental Education and given full approval status. The program was acclaimed by the Council for "the general depth and scope of the dental laboratory technology curriculum."

I am pleased to announce that we have a new full-time instructor who will be working with the program supervisor, John

R. Winings. The new instructor is Charles A. Champion from Oak Lawn, Illinois. Mr. Champion has degrees from Southern Illinois University and has just completed three years in the U.S. Army. We want to offer a warm welcome to Mr. Champion and look forward to his help in the program.

Dental Hygiene

The Dental Hygiene Program has high ideals for the coming year. Mrs. Diane McGregor, class of '67, has been added to our staff. She comes to us with experience as she was on the staff in the year 1971-72. Diane completed her B.S. degree in Education in 1969, and has been in private practice for six years.

The fall class of entering dental hygiene students consists of 21 Indiana residents and one Ohio resident. The degree program has five students, two of whom are graduates of the South Bend program.

The graduating class has accepted positions in various cities throughout the Midwest: Shelbyville, Decatur, Huntington, Roanoke, Grabill, Bluffton, Wabash, Rochester, Goshen, and Fort Wayne. One is located in St. Louis, Missouri, and three are in Ohio. Joyce Rockwell '73 and Gloria Huxoll '52 completed their B.S. in Education and Lois Skinner '71 and Christabel Erps '70 received their M.S. in Education. We congratulate you all.

Awards and Honors Night was held on April 29, 1974. A joint sharing of this night was with the Indiana University dental hygiene students and faculty and the Isaac Knapp Dental Hygiene Association. The main purpose was to honor the graduating students and present scholarships and other awards. Alumni of the Fort Wayne Campus, headed by Jacqueline Heine '66, created a new award, "The Gloria H. Huxoll Award," in honor of Mrs. Huxoll. It was truly a surprise and Mrs. Heine presented her with a sterling silver covered serving dish inscribed "In Your Honor, April 29, 1974." The perpetual award includes a \$25.00 check and a certificate to the student who demonstrates those qualities exemplified by Mrs. Huxoll; namely, motivation, sincerity and



KATHRYN CLAPPITT



SHARON YOUNG
SEC.



CHERYL ROEMBKE
V. PRES.



DEBBIE BELL
PRES.



MARY ACKERS
TREAS.



SHELLY REDMAN
JAGHA - PRES.



SUSAN BALYEAT

Indiana University

FORT WAYNE
DENTAL HYGIENE

SCHOOL OF 1974 DENTISTRY



CAROLYN REINHART



LYNN TRULOCK



JOAN RUNNEBOHM



JACQUELINE TALLMAN



DEBRA BURCH



SHARON SCHROEDER



KATHY SUDDARTH



DEBORAH DYE



CHERYL RENN



NANCY LANIE



LISA TSETSE



MARTHA MILLER



MELANIE PERRY



TERESA TROXEL



DONNA LARIE



IRENE OSBORNE

JOLENE RAUCH
TREAS.PEVILLE'S SCHMIDT
PRES.

ANN RHODS



MELANY ROESEHER



MARCIA MORRIS

MARTHA DEIGHTS
V. PRES.DIANE CLARK
SEC.

DEBRA DALES

Indiana University

FORT WAYNE
DENTAL ASSISTING

SCHOOL OF 1974 DENTISTRY



JANET REED



JOYCE OWENS



CONNIE JARRETT



ELLEN SREELER



CAROLYN THOMAS



CHRISTINA FREEMAN



DRAKE WEIKEL



PAMELA MEADOWS



KAREN BADEN



DEBRA COTTRILL



DEBRA SHANAVA



MELODY ROUSH



JANE MCCARTNEY



BARBARA JOHNSTON



MARY ANN GARELLE



SHEILA SMALL



DAWN MUSELMAN



CHUPITA CREIGHTON



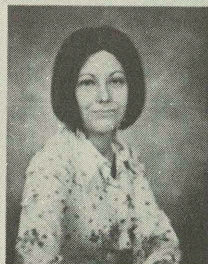
SHERRIE CORDES

Finest

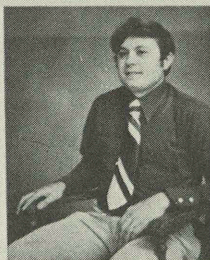
Indiana University

School of Dentistry

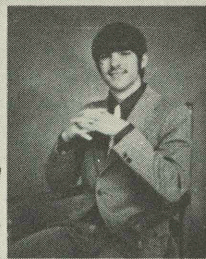
FORT WAYNE



Jodi Edwards



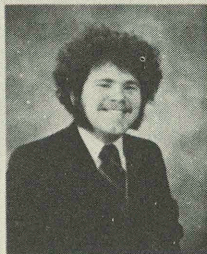
Herbert Edwards



Roger Hoot

1974

Dental Lab. Technology



Paul Schimmale



Diane Stevenson

dedication for the profession. Miss Jackie Tallman '74 was the recipient.

The Rebekah Fisk Award was presented by Suzanne Boundy, president of the Indiana Dental Hygiene Association, to Nancy Lanie; Cheryl Renn and Carolyn Reinhart were the Sigma Phi Alpha Honor Society recipients; Kathryn Clampitt received the Lewis B. Spear Award given by Dr. Phillip O'Shaughnessy; Shelley Redman received the Outstanding Dental Hygiene Education Award given by the Isaac Knapp Dental Hygiene Society; and president, Diane McGregor, gave to Marilyn Laux the Society's scholarship of \$200.00.

DENTAL AUXILIARY EDUCATION SOUTH BEND

Alfred Fromm, Director

I was just reading the Spring issue of the Alumni Bulletin, and I noted that the article ended with a notice of Mrs. Heine's "enceinte". Normally, we would say "Congratulations" and, then, forget about it. But who can forget twins? No favorites, either: a boy and a girl, July 6, 1974.

We start the year with a new faculty in Dental Hygiene. Mrs. Bonnie Hamber comes to us from East Tennessee State as the Supervisor. Mrs. Christine Mosher comes here as the Assistant Supervisor from the University of Michigan.

At the annual Awards Day for the Dental Hygienists, several students were honored. The Dorothy Fromm Award in Preventive Dentistry was won by Rebecca Schmidt.

The A. Rebekah Fisk award was presented to Carolyn Rhea.

Each year the Elkhart Dental Auxiliary makes an award to the outstanding student. This year Jo Ann Martin was the recipient of that award.

The Excellence in Dental Hygiene Award was given to Linda McDowell.

Sigma Phi Alpha now has two new members from the class of 1974. They are Lynne Johnson and Cathy McCracken.

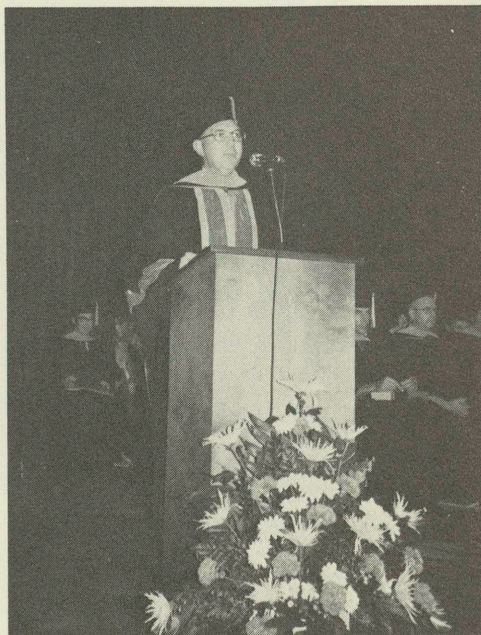
Mrs. Jennifer Hays and Ms. Maureen Schneider were elected President and Vice President, respectively, of the local Dental Assistants Society.

We ended our year on a rather high note. Miss Linda Recher and Miss Carla Winters won the trophy for the best table clinic for dental assistants at the State Meeting in May.

The annual Ralph G. Schimmele Award in Dental Assisting this year was presented to Miss Linda Recher. This award is given to the student with the highest grade average in the Dental Assisting class. The runner-up, Miss Mary Jo Geshke, was given the annual faculty award.

We are working on some curriculum changes. The most important of these is where and how to fit in courses on expanded functions without weakening what we now have. Another problem has been the utilization of the fourth year dental students in our program, should any desire coming to South Bend.

The Admissions Committees for both Dental Hygiene and Dental Assisting have met and accepted full classes, and we are looking forward to the start of classes for the year 1974-75.



Honors Day—Indianapolis
Dean McDonald



LINDA VANDERBEKE



AMY SALEE



CINDY SMITH



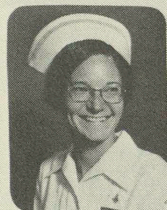
LINDA SCHAFER



JEANNIE SCHMITT



CATHY MCCRACKEN



LINDA MCDOWELL



KATHY SERTICH
PRESIDENT



JOANN MARTIN
VICE-PRESIDENT



LYNNE JOHNSON
SEC.-TREAS.



JANN MOORE
PRES. JR. A.D.H.A.



CONNIE SIEBENTHAL



JILL LITTLE

Indiana University Dental Hygienists

School of 1974 Dentistry

South Bend Campus



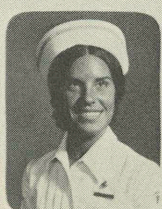
REBECCA SCHMIDT



CHARLA HEBARD



PEGGY BOULANGER



BARBARA KELLY



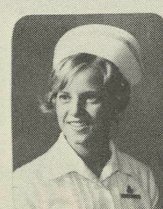
CAROLYN RHEA



BECKY KORENSTRA



CAROLYN VANDEWALLE



CHERYL DANCH



KATHY FRICK

MONIKA ERICHSEN
TREAS.DIANA VANNONI
PRES.LINDA RECHER
V. PRES.KAISTA DICKENS
SECR.

CYNTHIA DREW



CINDY AYER

Indiana University

Dental Assistants

School of 1974 Dentistry

South Bend Campus



LINDA KUJAWA



DAWN HERSBERGER



CARLA WINTERS



KATHERINE BRUNN



PAMELA HAAG



LINDA KUKLA



CHERIE CURL



CHERYL VAN SCHOYCK



MARY GESCHKE



SANDRA SEEVERS



MARY GALBREATH



CYNDI BLOSKY



SHELLEY ROWDEN



NANCY BELT



DEBBIE DORSEY

The Bookshelf

Mrs. Helen W. Campbell, Librarian

What is a Library? Webster¹ gives several definitions for the word, among which are the following: (1) a room, a section or series of sections of a building, or a building itself given over to books, manuscripts, musical scores, or other literary and sometimes artistic materials (as paintings or musical recordings) usually kept in some convenient order for use but not for sale, (2) a collection of books, manuscripts, or other literary materials kept for study or reading . . . , (3) an institution for the custody or administration of such a collection (the *Library of Congress*), (4) a collection suggesting a library (as a reference library), (5) a series of books of some similarity used by a publisher (a Hawthorne library), (6) a series of reference materials bearing on the same matter (as programs, routines and subroutines in digital computing).

A modern concept, however, views a library as an information center. By accenting the service possibilities of its materials, today's library has departed completely from the theory that a "good" library keeps all its books neatly arranged on shelves behind glass doors. A library in 1974 is measured by its usefulness to the community it serves, be it the general public, an academic discipline or the management or technical personnel of a private corporation.

Of course, the School of Dentistry Library is a section of the Dentistry Building and is a collection of books. However, the service function is given high priority here. The community we serve is primarily the faculty and students of the School, but our resources are also available to any dentist or citizen in Indiana, any alumnus of IUSD, or for that matter, any dental researcher in the world. Our principal re-

quests from individuals and libraries within Indiana are for Xerox copies of articles which have appeared in journals unique in our collection. Libraries within the State have a publication entitled *Indiana Union List of Serials* which will show whether we have a particular journal. Of course, a dentist calling or writing us usually assumes that if the item is dental, we will have it. From libraries outside Indiana, interlibrary loan requests are usually for theses written by students in our graduate programs.

As an information center, what would a typical day look like if we kept a log of the questions asked our Staff by our "community" (the individuals in the School of Dentistry Building)? The most frequent query would be "Where would I find . . . ?" and we would explain our shelf arrangement for the book or journal needed. Next on the list is the statement "I can't find . . . , does someone have it out?" This calls for a check of the circulation file to see if the item in question is being used, who has it and when it is due to be returned. If the item is not charged out, then we must start a search of the unshelved material, and the shelves themselves. Many phone calls come from departmental secretaries requesting addresses for U.S. dentists, and this information is obtained from the latest edition of the *American Dental Directory* which has both an alphabetical and a geographical listing. Often a secretary will have a letter addressed to her departmental chairman which gives only street address and foreign city without designating the country, and we turn to the very informative *Webster's New Geographical Dictionary*. For information pertaining to meetings and "how to get there from here," we consult the *Official Airline Guide* or *Leahy's Travel Atlas*. Often a graduate student will say: "I need this article for my research project. Can you borrow it for

¹ Webster's Third New International Dictionary of the English Language Unabridged. Springfield, Massachusetts, G & C. Merriam Company, Publishers, 1961.

me?" Then we swing into action by checking the *Union List of Serials* for any journal which began publication before 1950, or *New Serials Titles* for those which were first published after 1950 to find what library in the U.S. may have the item.

Faculty members ask for the addresses of publishing houses or whether a later edition of a certain book has been issued. We may be asked to find biographical information concerning someone prominent in dentistry, either by a student writing a paper or a faculty member who has been asked to introduce a speaker for a dental society meeting or a continuing education course.

All of these questions really underline our utility as an information center and are separate from our "usually thought-of purpose" of collecting dental books and periodicals and the newer non-print media such as videotapes, microfilm, audio tapes, etc. As we tell the students in orientation lectures when the fall semester begins, we want our library to be useful and used. That is our only justification for being a part of the academic program.

* * * * *

The following are abstracts of theses written at the School:

HYPERVITAMINOSIS A AND ITS EFFECTS ON EXPERIMENTAL TUMORIGENESIS IN THE SUB-MAXILLARY GLANDS OF RATS

Richard A. Alper

This study was undertaken to determine if high doses of vitamin A might inhibit or alter the development of carcinogen-produced squamous cell tumors in rat salivary glands.

Eighty female rats (Wistar strain) were divided into four groups, A, B, C, and D, and exposed for 12 weeks to a DMBA-carbowax pellet implanted into their right submaxillary gland. Concurrently, groups A, B, and C also received twice weekly IP injections of 5000 I.U. aqueous retinyl palmitate over 16, 12, and nine weeks respectively. Group D did not receive the vitamin supplementation.

Sixty-eight of 70 animals at risk developed squamous cell tumors. No significant difference was observed in the incidence or behavior of epidermoid cysts, dyplastic cysts, or epidermoid carcinomas in the vitamin groups when compared to control group D. It is suggested that either too low a vitamin dose and/or inherent characteristics of salivary epithelium may

have been responsible for lack of inhibition.

Eight adenocarcinomas were also observed, seven concurrent with squamous cell tumors and one independently. These tumors arose from pre-neoplastic foci of residual secretory ducts. Vitamin A may have influenced the development of these by maintaining protein synthesis necessary for glandular differentiation, as well as effecting easier penetration into the cell by DMBA, thus providing an impetus for neoplastic transformation. Sarcomatous transformation was also noted concurrently with squamous cell tumors in seven animals.

THE EFFECTS OF STAPHYLOCOCCUS AUREUS ON PULPAL AND PERIAPICAL TISSUE IN GNOTOBIOTIC RATS

Eugene A. Alter

This study was designed to gain a better understanding of the effects of a pathogenic bacterium under gnotobiotic conditions upon pulpal and periapical tissue.

The seven test animals used in this study were 5-week old male Sprague-Dawley axenic rats. Ten animals were used as conventional controls but were caesarean-originated barrier-sustained (COBS) instead of axenic.

Maxillary first molars were pulpally exposed in designated animal groups, and likewise designated animal groups were orally inoculated with *Staphylococcus aureus*. Gnotobiotics with and without pulpal exposures were challenged with *S. aureus* while another group of gnotobiotics with pulp exposures were free of *S. aureus*. The dental pulps of conventional control groups were challenged by their normal oral flora and *S. aureus* and/or normal oral flora without *S. aureus*.

After sacrifice, the teeth were prepared for histologic evaluation and graded for the degree of pathosis.

The results indicated that while *S. aureus* did induce moderate pulpal and periapical pathosis, conventional control animals with pulpal exposures but no *S. aureus* showed a markedly greater degree of pathosis.

THE ODONTOGENIC KERATOCYST—A CLINICOPATHOLOGIC STUDY OF 312 CASES

Robert B. Brannon

A detailed clinical and histopathologic study was conducted of the etiology, pathogenesis, histologic features, neoplastic potential and clinical behavior of the odontogenic keratocyst. All cysts coded as dentigerous cysts, eruption cysts, odontogenic keratocysts, primordial cysts, lateral periodontal cysts, median mandibular cysts, median alveolar cysts, globulomaxillary cysts, residual cysts, and cysts of undetermined origin that were accessioned by the Oral Pathology Department, Indiana University School of

Dentistry, from 1950 through 1 July 1972 were reviewed. Those which met the criteria for odontogenic keratocysts as described by Pindborg and associates were recorded.

Of the 2,972 cysts examined, 312 keratocysts from 283 patients were found for an incidence of 10.5%. A total of 5.1% of the keratocysts were from 11 patients with the basal cell nevus syndrome and 5.8% were from 10 patients with multiple keratocysts, but with no other features of the syndrome. The peak incidence was in the second and third decades of life and the male to female ratio was 1.35:1. The mandible: maxilla ratio was 2:1, with the mandibular third molar area and ramus being the most common site. The largest number of keratocysts were histologically as well as clinically diagnosed as dentigerous cysts. The primordial cyst had the greatest percentage of keratocysts (44.4%). A total of 50.3% of the patients were symptomatic before seeking treatment, the most common finding being intraoral drainage and swelling. These cysts may be very aggressive clinically, and radiographically they varied widely in appearance, frequently resembling the ameloblastoma. They have a relatively high recurrence rate (12.0%) compared to other odontogenic cysts.

Keratocysts possessing orthokeratin in their lining epithelium are prone to be of the dentigerous cyst type. Evidence in this series indicates that keratocysts can undergo ameloblastomatous transformation and may also exhibit epithelial atypia.

These findings support the theory that the histologic appearance of an odontogenic keratocyst may be assumed by any of the odontogenic or nonodontogenic cysts. Also, epithelial atypia and neoplastic transformation appear to be more common in keratocysts than in other odontogenic cysts which were studied.

ADHESIVE QUALITIES OF DIFFERENT DENTAL CEMENTS

R. Joseph Clark

Orthodontic bands were cemented to extracted teeth with four types of dental cement. The force values required to dislodge the bands after storage in water for 24 hours were recorded and a comparison of the cements were made. The amount of residual cement remaining on the enamel surface and the band was also recorded to determine whether the fracture was in the cementing agent or at the enamel surface.

The silico-phosphate and the resin cements required a greater force for dislodgment than did the zinc phosphate and polycarboxylate cements. They also were found to have a higher percentage of residual cement still adhering to the enamel surface after the bands had been dislodged.

AN INVESTIGATION OF DEPRESSIVE ROOT MOVEMENT IN THE MACAQUE SPECIOSA MONKEY

Victor Reid Clevenger

The purpose of this study was to investigate the possibility of accomplishing simultaneous intrusion and distal root movement of monkey premolar teeth utilizing the molar teeth as anchorage. Four *Macaque speciosa* monkeys were used as the experimental specimens. Root springs of the type used in the segmented arch technique were used to apply unequal moments to the premolar and molar teeth. The movement was accomplished by a couple generated by the unequal moments. The results were analyzed cephalometrically and histologically. It was found that it is impossible to accomplish distal root movement and intrusion of the monkey premolars when the anchorage is restrained from eruption. When the anchorage is not restrained intrusion is minimal. Root resorption was found to be associated with the magnitude of the difference in the moments applied and the amount of tooth movement.

THE CALCIFYING ODONTOGENIC CYST: A CLINICOPATHOLOGIC STUDY

Lourdes Rota Devildos

An analysis was made of the clinical and histopathologic features of 34 cases of calcifying odontogenic cyst from the files of the Department of Oral Pathology, Indiana University, School of Dentistry. Complementing this study is a review of the literature and an analysis of 74 previously published cases.

The findings of this analysis indicate that the clinical and roentgenographic features of the lesion are not pathognomonic, with considerable variation among cases. The results of histomorphologic and histochemical investigations show that although there are distinguishing factors in delineating the calcifying odontogenic cyst as a separate entity, the lesion is of a complex nature and presents a wide range of variations. This condition may be found in conjunction with odontogenic tumors, and this finding is important in the behavior of the lesion. The study further supports the theories regarding the odontogenic origin of the lesion and its histogenetic analogies with the cutaneous calcifying epithelioma of Malherbe.

THE EFFECTS OF A DIETARY SUPPLEMENT OF FRESH ORANGES ON THE ORAL HEALTH OF CHILDREN

Gary J. Dilley

The effects of additional citrus fruit in the diet on the periodontium have been a debated subject for some time. This study attempted to

measure the effects of eating three additional oranges per day by 123 children ages six through twenty years and an equal number of controls over a 23-week period. To measure any changes that might take place, the following were evaluated clinically, and the decayed, missing and filled surfaces were also evaluated radiographically:

1. gingival status
2. plaque formation
3. D.M.F.S. and d.m.f.s.
4. white spots

Results after the 23 week test period showed that the gingival scores increased significantly in both groups (increased inflammation). The plaque formation score also increased in both groups, but only the non-orange eaters' score increased significantly over their original score and over the orange eaters' score. The decayed, missing, and filled surfaces and white spots did not change significantly in either group.

Therefore with this study sample over the 23-week test period, the additional oranges in the diet had limited measurable effect on the hard and soft tissues of the oral cavity.

THE TUMORICIDAL PROPERTIES OF CALCIPHYLAXIS

Lawrence Ira Goldblatt

The purpose of this investigation was to induce fibrosarcoma in Sprague-Dawley rats using subcutaneous injections of 3-Methylcholanthrene (MCA), transplant the tumor to a large experimental group of rats, and then destroy the tumors by induction of topical or systemic calciphylaxis.

Two of eight surviving MCA-treated rats developed undifferentiated sarcomas after an induction period of 4½ months. One of these tumors served as a donor for the calciphylaxis experiments. Of 110 transplants, only eight tumors remained at least partially viable by the end of the experimental period. The remainder underwent immunologic destruction.

Induction of topical calciphylaxis was attempted in five animals by dihydrotachysterol (DHT) sensitization followed by intratumoral challenge with ferric dextran. Induction of systemic calciphylaxis was attempted in five more animals by DHT sensitization followed by intraperitoneal challenge with egg albumin. Calciphylaxis was achieved in three of the five animals in each group; however, no calciphylaxis occurred in any of the tumors.

THE RELATIONSHIP BETWEEN CREVICULAR FLUID AND GINGIVAL INFLAMMATION: A CLINICAL AND HISTOLOGIC STUDY

Everett Brady Hancock

This study evaluated the relationships between the clinical status, the amount of crevicular

fluid flow, and the histologic status of the gingiva in sixty patients beginning dental treatment.

Crevicular fluid was collected by placing a 2x15 mm strip of Munktell's No. 3 filter paper at the orifice of the gingival crevice of the mid-labial surface for three minutes. The filter paper was removed, heat dried, and stained with 0.2% alcoholic ninhydrin. The stained area was measured to the nearest .5 mm under the dissecting microscope.

The inflammatory status of the area was assessed using an index based on bleeding tendency and tissue consistency; a second assessment was then made using the criteria of the Gingival Index. A gingival strip biopsy, 2 mm wide and 1 mm beyond the depth of the pocket, was obtained. Labio-lingual serial sections were prepared and the microscopic level of inflammation was graded by two examiners on a scale of one to ten.

The correlation between the clinical inflammation scores using the Bleeding Index and the microscopic evaluation of Examiner I was +.887, and between the Bleeding Index and the microscopic evaluation of Examiner II was +.866. The correlation between crevicular fluid flow and the Bleeding Index was +.408; for crevicular fluid flow and the microscopic evaluation, it was +.358. It was concluded that quantitation of crevicular fluid is a poor indicator of the severity of gingival inflammation. However, crevicular fluid is one of several clinical signs of inflammation which, when combined, may give a reasonably accurate estimate of the severity of gingival inflammation.

IN VIVO AND IN VITRO INVESTIGATION OF THERMAL DIFFUSION THROUGH CLASS V RESTORATIVE MATERIALS AND BASES

Richard H. Harper

A laboratory and clinical study was conducted investigating the rate of thermal transmission through silicates, resins, amalgams, and various materials used as insulating bases beneath the restorations. These materials were placed in Class V preparations and temperature changes were monitored at various areas of the tooth and restoration via chromel-alumel thermocouples. The finished restorations were subjected to a 10 second application of 0° C. and 55° C. water; thermal diffusion through the materials was recorded and graphs showing time-temperature curves were drawn from the data.

Of the restorative materials tested, amalgam showed the highest rate of thermal diffusivity. This was followed by the composite resins. These rankings are to be expected when one considers the physical and chemical properties of the materials.

It was apparent that an insulating base is necessary for thermal protection beneath an

amalgam restoration. It was also evident that the degree of insulation is dependent upon the thickness of the base. The thermal protection of a "wash" of a base is minimal; a 1 millimeter thick base is three times as effective as a 0.5 millimeter base on the same material.

The use of a base for thermal protection beneath a resin or silicate is not indicated as the base brings about an increase in thermal diffusion as compared to a restoration of the same material placed without a base. A thin layer of base is often necessary as an aid in the prevention of pulpal injury due to chemical agents.

These findings support the idea that thermal shock through an amalgam restoration can be minimized by the use of an insulating base. The critical factor is the thickness of the base.

DEVELOPMENT OF A NEW ANTI-BACTERIAL ENDODONTIC IRRIGATING SYSTEM

Frederick L. Katz

This investigation represented an attempt to incorporate an antiseptic compound into dentin and thus make the root canal bactericidal in nature. Many endodontic failures can be traced to bacterial contamination, and it was postulated that an antiseptic could be deposited into

(Continued on Page 80)

Dr. Shafer Honored

The Indianapolis Chapter of Alpha Omega presented an Award for Meritorious Achievement to Dr. William G. Shafer at its recent Senior Farewell Banquet.

Dr. Shafer, who is Distinguished Professor and Chairman of Oral Pathology at Indiana University School of Dentistry, was honored for his continued contributions to dentistry for the last 25 years.

Pictured at the Award Presentation are Dean Ralph McDonald (far left), Dr. Charles H. Redish, President of the Indianapolis Chapter (second from left), Dr. Shafer and Dr. Samuel S Patterson, former National Regent of Alpha Omega (far right).



Dr. William Shafer receiving Alpha Omega Award

Old Diplomas Sought for Dental Library

Jack D. Carr

Every diploma has a story behind it and we want to bring some of these historical sketches to our alumni. If you have an old diploma (prior to 1925) we would like to have it to copy or keep in our library.

Dean Ralph E. McDonald received an especially interesting diploma recently which was awarded to Dr. Albert B. Glick in 1898 by the University of Indianapolis (recommended by the Department of Dental Surgery).

The University of Indianapolis had been organized in 1896 by a number of philanthropic residents of Indianapolis and included the Indiana Dental College, Indiana School of Law, Indiana Medical School and Butler College. George Edwin Hunt, D.D.S., was secretary of the Board.

Since Dr. John N. Hurty was President of the Board of Trustees of the Indiana Dental College, he signed the diplomas as Dean. Thus it appears that Dr. George Hunt was not the Dean from the year 1896, as many individuals have thought.

The following informative notes about Dr. Glick were furnished by his son-in-law, Mr. Lawrence J. Davis, of the IUPUI Purchasing Department.

After graduating from the University of

Indianapolis, April 12, 1898, Dr. Glick practiced dentistry in the Fountain Square area for many years.

He lived to be 100 years old (plus) and was a remarkable man with a wonderful memory and a good sense of right and wrong, a good moral philosophy.

Dr. Glick was born in Petersburg, Indiana and grew up there.

As a young man he worked in an express office to earn money for college, and he lived frugally. Then, on Black Friday in 1890, he lost his money. Many men would have given up but Dr. Glick started all over and saved the money again to go to college. He earned his preidental degree at a college in Danville, Indiana.

Dr. Glick died several years ago. His daughter is Mary Alice Davis (wife of Lawrence J. Davis).

He had to retire from dentistry because of failing eyesight, and this was during the depression years. Many men would, again, have given up, but Dr. Glick went out and got a job pushing a wheelbarrow in a machine shop, cleaning up the metal shavings under the machines. Dr. Glick ultimately achieved ownership of three farms in Kansas, one of which had oil wells on it.

HONORS PROGRAM

(Continued from Page 36)

J. Shambaugh, Dr. William H. Stalker and Dr. Stephen M. Zeck.

The James L. Maus Memorial Scholarship Award (\$500 and plaque) to Mr. Gerald E. Kerr.

X-L Program Certificates were presented to: Dr. George A. Adams, Dr. Robert J. Allen, Dr. Russell P. Beckett, Dr. Keith W. Dickey, Dr. Roger W. Dillman, Dr. Donald M. Drone, Dr. John R. Eastman, Dr. Lynn E. Gassoway, Dr. Michael R. Johns, Dr. James F. King, Dr. Anne C. Kossowan, Dr. Raymond G. W.

Kubisch, Dr. Kenneth U. Lau, Dr. John B. Lehman, Jr., Dr. William B. Leibow, Dr. Max L. Lingo, Jr., Dr. James V. Macri, Dr. Lynn S. McConnell, Dr. Donald W. Mosley, Dr. Allan R. Nowakowski, Dr. Edward G. Prusz, Dr. Edwin K. Rogers, Dr. Thomas G. Rosenbarger, Dr. Timothy J. Shambaugh, Dr. William H. Stalker, Dr. Mitchell H. Wohlmuth and Dr. H. Eric Zeller.

The American Academy of Gold Foil Operators Award to Dr. William H. Stalker.

THE
University of Indianapolis
 APPROVING THE RECOMMENDATION OF
 THE DEPARTMENT
 OF DENTAL SURGERY,
 THE INDIANA DENTAL COLLEGE

By virtue of the authority vested in it by the State of Indiana,
 does now promote **Albert Glick** to the degree of
DOCTOR OF DENTAL SURGERY,
 conferring upon him all the honors and imposing upon him all the
 duties implied thereby and from its full authority granting and
 conceding by this **DIPLOMA** all the rights and
 privileges pertaining to that Degree.

In Testimony of which he has received these letters duly signed and sealed
 at Indianapolis, Ind. this twelfth day of April 1898.

J. M. Hurley Esq. D.D.
 Professor of Chemistry
Alex. Jamieson M.D.
 Professor of Operative Dentistry, Dental Histology and Orthodontics
George Edwin Hunt M.D., D.D.
 Professor of Zoology and Pathology
A. C. Thompson M.D.
 Professor of English
Frank A. Worman M.D.
 Professor of Pathology and Bacteriology
Charles E. Ferguson M.D.
 Professor of Histology and Bacteriological Microscopy
W. H. Francis M.D.
 Assistant Professor of Chemistry
Am. A. Beckard D.D.
 Professor of Anaesthetics
 For the University.

Allen M. Tietze
 President of the Board of Trustees.
George Edwin Hunt
 Secretary of the Board of Trustees.

FACULTY

T. C. Hacker D.D.
 Professor of Parodontic Work
Robt. J. Oliver D.D.
 Professor of Prosthetic Dentistry
Wm. T. Allen D.D.
 Professor of Crown and Bridge Work
Nancy A. Knicker D.D.
 Superintendent of Clinical Dentistry
John A. C. Brown M.D.
 Professor of Teeth
Wm. Oliver M.D.
 Professor of Oral Surgery
Thos. Potter M.D.
 Professor of Radiology
William Blumstein D.D.
 Professor of Physiological Anatomy

For the College.

J. M. Hurley Esq. D.D.
 Dean of the Faculty
George Edwin Hunt M.D., D.D.
 Secretary of the Faculty.

A Diploma of Historic Interest

Alumni Notes

Cleona Harvey

I really thought I would be greeting you with Aloha! But Evelyn has not been well enough to make the trip to Hawaii—however, it is not canceled—just postponed.

My health is much better and that is a blessing since nursing is quite tiring—but Evelyn assures me that I am a good nurse! Secretly, in my younger days nursing was one of several avocations I thought I would like. And I do like it, but I'm getting anxious to retire from that, too. And here is where maybe some one of you can help us. Evelyn is suffering 24 hours a day with Von Recklinghausen's disease. No one seems to know anything to do but relieve the pain as much as possible by medication. If you have any information about this disease, please do contact me.

Incidentally, we did go to St. Louis in May and again in June for some acupuncture treatments from Dr. Gabriel Lu, who is a brother to Dr. Dominic Lu of the dental class of 1971. Dr. Dominic said his brother was an expert in acupuncture and Dr. Gabriel graciously consented to see Evelyn and give her some treatments and advised us concerning whether or not he thought acupuncture would prove beneficial. His treatments did help at first but as with the ones she received in Indianapolis, the treatment didn't last much longer than the medicine, so he advised acupuncture only if we could be where an acupuncturist could come immediately when the pain started. We feel grateful to Dr. Gabriel and Dr. Dominic for their many kindnesses. Their father is an M.D.—dermatologist, with office in Hong Kong and their mother is an M.D.—plastic surgeon, with two offices in Taiwan and Dr. Gabriel's wife Dr. Linge is a psychiatrist. That family is something else and since we were in St. Louis the parents were visiting the U.S. and were at Dr. Gabriel's and he and his wife had me over for dinner one evening and never did I eat such delicious Chinese food or enjoy an evening so much. Dr. Linge is on the staff at

City Hospital in St. Louis and she had invited the head of the Hospital for dinner also. I have forgotten her name but she was a lovely person and that evening will always be one of my happy memories. Dr. Lu senior came over with Dr. Gabriel one evening as he had never seen a case of Von Recklinghausen's disease and he also inserted a few acupuncture needles!

Just a week ago last Friday evening the dental alumni had their annual banquet and since I am an honorary member, and since it was in Bloomington, I went and had a wonderful time. So many of my 'boys' stopped at our table to greet me I didn't get much eating done, but I did get a lot of hugs and kisses! Being 66 has its advantages—20 years ago they wouldn't have dared! Anyway it was a lot of fun and it is nice to be remembered. There is no doubt about it—our graduates (and faculty, too) grow better looking as they grow older and their wives are lovelier each year. It was a very festive occasion and of course both of my former bosses were there (Dr. Hine and Dr. McDonald) looking handsome as ever. Mrs. Chilton is still with him as his secretary and she tells me they keep quite busy. I knew Dr. Hine could never really retire—at least not yet.

My brother's will is still in probate court but there is some hope of a settlement soon. I shall be so glad. However, we have been quite successful in keeping 9 rentals rented and the rent collected! Believe me that is something considering the sickness we have had. My lawyer is quite proud of us and I hope he remembers that when he presents his bill!

I am not doing any counseling this year unless the student wishes to come to my home. Carrying a heavy brief case with all the material which I had to have, and be out in all kinds of weather just didn't seem wise since I am still having to be careful with my broken bones! I put carpeting on our kitchen floor and that soft-

ened the blow and also makes us feel like we are living in the lap of luxury. I dreamed of this all the 37 years I worked and I sure am enjoying it now.

Your letters continue to be very interesting and informative. So many of the alumni told me at the banquet to keep the news rolling as they loved to know what everyone was doing. So, please write me just once a year at least and I can continue to have fun writing to you all. Please remember the S.O.S. and also remember us in your prayers as we do in ours.

And now for news of the Classes beginning with the Class of

1909

Deceased: Dr. Victor H. Hilgemann, Ft. Wayne, 10-31-72

1910

Dr. I. Lester Furnas, 5775 Chelsea Avenue, La Jolla, California 92307, sends us a letter which seems to be a copy of a letter and an answer and then his reply. I am sure you will be interested in hearing from this grand old gentleman who has been such a faithful alumnus of I.U.S.D. "Dr. Rollin Wilcox, Claridge Apts., 30C, 250 E. Bristol, Elkhart, Ind. Dr. E. O. Metzger, Box 36 St. Michaels, Md. 21663. My dear Class Mates:—Yesterday I returned home from our annual eastern vacation trip (letter is dated June 13, 1974) and the news that I received was not good but I hasten to relay it to you.

On May 10th I sent you a letter with the bad news of the passing of Jack Fullenwider. Now my letter to Seidel has been returned to me from the Hospital marked DECEASED. I visited Seidel in the hospital as I told you in my last Christmas letter and I had a feeling that the end was near. He never practiced dentistry but remained in the music publishing business, his first love. He had the respect of every man in the class and if it is possible that in the next world we will again meet with our friends I am sure that he will receive a very warm and sincere welcome from his Class Mates.

"As I opened my mail which had accumulated during the months absence this letter came to my attention:—I quote. 'Dear Dr. Furnas: Your letter of May 10th arrived while 'Pop' McAdams (my father-in-law) was quite ill and I did not read it to him. This past December he was hospitalized for routine tests. A malignancy of the lung was discovered. Also the possibility of one in the bladder. This news seemed to stagger him. He went back to his mobile home but gradually became more despondent and weaker. During Easter he was again bedridden. This time he seemed to give up. I am sorry to have to send this news but hope that God may bless the remainder of the group. Sincerely. Marilyn McAdams (Mrs. Hugh).

"There is so much that I would like to say nice about 'Micky' but Micky said it when he was with us.

"The Class of 1910 joins with the entire town of Boswell when we all say in unison 'Goodbye Micky' we all loved you." Sincerely, Les. Furnas.

Dr. Furnas we love you for sending us the news about your classmates. While not many may be around who will remember them they will remember you because you have been writing us off and on for 30 years at least and I have always hoped someday I might get to meet you. Being an optimist I still have hopes.

I turned a page and lo and behold I had another letter from Dr. Furnas which should have come first, but since it would take some doing to get it inserted that way we shall just say this letter starts out with the date of May 11, 1974 while the other one was written June 13, 1974. In the May letter he reports to his classmates: "Dr. Rollin Wilcox, Claridge Apts, 31C Elkhart, Ind., 46514; Dr. I. Seidel, Sun Air Hospital, 14857 Roscoe Blvd., Los Angeles 91402; Dr. E. O. Metzgar, Box 36 St. Michaels, Md. 21663; Dr. F. B. McAdams, 13 Lori Lee Estates, Lafayette, Ind. 47905. Again it becomes my very sad duty to bring to you the passing of one of our classmates. I quote a letter which I have just received. 'Dear Dr. Furnas: I am very sorry to have to send you this unhappy news. On April 20, 1974 my father, Dr. John Fullenwider passed away in a

hospital which he entered on April 2nd, suffering from arteriosclerotic heart disease. He also had a serious diabetic condition. He wanted you to know your letters through the years meant so much to him. Sincerely, Mrs. A. F. Woodward, 1660 Bedford Road, San Marino, California 91108.' There you have it. Jack has joined the Class again.

"I like to sit and daydream about the conversation that went on when Jack walked in. You know that they were glad to see him because there was not a better liked and more respected classmate in the 1910 outfit.

"We five that are left can only thank God for having given us the chance to know and count Jack Fullenwider as a dear friend. Sincerely yours, Les. P.S. I think that it would be wonderful if you would all drop Mrs. Woodward a note of sympathy."

There, that does get in both letters and while they are sad yet to the Class of 1910 it is information of great importance. The Class now numbers four and that is pretty wonderful considering they graduated 64 years ago. I am sure they never cease to be amazed at the many changes that have come about in the practice of dentistry in those 64 years. Thank you again, Dr. Furnas for writing us.

1913

Deceased: Dr. Maurice H. Iddings,
Hammond, Ind. 1-9-74

Deceased: Dr. David D. Shepherd,
Muncie, Indiana. 1-20-74

1918

Deceased: Dr. Frank M. Belt, Akron,
Ohio. 3-8-74

1922

Deceased: Dr. Basil R. Dibbles,
Hammond, Indiana. 2-28-74

Deceased: Dr. Violet G. Bull, Linton,
Indiana. 6-11-72

1923

Deceased: Dr. Theodore E. Lilly,
Dayton, Ohio. 1-15-74

1924

Deceased: Dr. Bernard A. Martin,
Sarasota, Florida. 2-4-74

Deceased: Dr. Robert E. Naftzger,
Ft. Wayne, Indiana. 2-9-74

At the banquet last Friday evening, Dr. Huckleberry announced that his Class had celebrated their 50th anniversary and from now on they were to be known as "The Golden Boys of Indiana University School of Dentistry". For that he received a good round of applause.

1925

Deceased: Dr. Stephen L. Auter,
Indianapolis, Indiana. 2-18-74

1927

Deceased: Dr. Basil Robert Dibblee,
Hammond, Indiana. 2-28-74

1928

Deceased: Dr. William R. Bane, Corpus
Christi, Texas. 2-20-74

Deceased: Dr. Perry R. Sylvester,
Indianapolis, Indiana. 6-5-74

1929

Deceased: Dr. William Cumback Staf-
ford, Hope, Indiana. 6-15-74

1931

Dr. Marvin S. Cochrane, 310 N. 40th Ave., Yakima, Wa 98902 sent us a card which reads as follows: "We hope you are well. Just the past week or so we have experienced a heat wave; however, at night the breeze is cool and delightful. The year has slipped by already and so fast. Our grandson visited us during his spring vacation and it was a treat. He will go with us in August to Expo 74 in Spokane. That will be an experience to remember and we are looking forward to it. No news from the '31 Classmates. Hope you have a vacation planned." Dr. Cochrane, thank you for just plain remembering us. I am glad you are able to go on vacations, etc. We have all kinds of plans but until Evelyn is feeling better we have

shelved them. But we are happy just being alive and enjoying each day as it comes, and we have had some wonderfully lovely days in Indiana.

Deceased: Dr. Albert Matre, Reading,
Pa. 2-14-74

1932

I am so happy to share with you a letter from Dr. Harold C. Asher, P. O. Box 1544, Lake Havasu City, Arizona. 86403. *"This may be too late to catch you before your move to Hawaii but if the U.S. Postal Service will forward it on to you it might still reach you. After reading in the Spring 1974 issue of the Alumni Bulletin, in Marv Cochrane's semi-annual letter that he corresponds with me, I thought maybe it was about time I reported in person. "I read every copy of the Alumni Bulletin as it arrives and each time I do I have a strange feeling that I am slipping further and further away from what was at one time very close to me. While our school was a converted rooming house with a large room added on the back for a clinic at the corner of North Pennsylvania and East Walnut we were very proud of our I.U.S.D. The building itself was a four story firetrap that could very well have been set afire many times with our blow-torches but it was our school and it meant a great deal to us. Imagine, if you can, how I felt this past May when I walked up to the corner of North Pennsylvania and East Walnut and discovered that our school building was completely gone, not a single shred of it was there any more, just a rough dirty unkempt vacant lot with some old cars parked on the grounds that was once our school.*

"The occasion that brought me back to Indianapolis in May was to attend the forty-second anniversary of our class's graduation. There were eleven of our class who attended and ten wives: Harry Glass and his wife, DeWan Killinger and his wife, Ralph Kroot and his wife, Glen Lake and his wife, Adalbert Magyar and his wife, Bill Milligan and his wife, Ken Smithson and his wife, Meredith Tom and his wife, Lynn Vance and his wife, Charlie

Wiley and my wife Bert and myself. Those who are close enough to Indianapolis will meet the next two years informally for a luncheon but our next big effort will be for our forty-fifth in 1977 and now that I know Evan Steele lives right here in Sun City I'm going to see if I can't put enough fire under him to get him to go back with me next time.

"One thing I must marvel at and have for some time is the warmth and keen interest you show for all us dental school graduates even though many of us you don't even know because we had come and gone before your association with our school. I can see in the case of the green freshman who stumbles around trying to acclimate himself to his new surroundings and then as you watch him develop and mature into an upper-classman and then graduate, you would be sure to have a keen personal interest in any such individuals but you don't isolate any of those from the rest of us and it certainly is a marvelous part of your character.

"Some years ago I wrote to you about my surprise at learning that one of our graduates (I think he was in the class of 1949) had never seen or heard of a dental foot engine, the only means of power we had to use while students, and you promised then that you would try to locate one and have it put in the archives of our school so that the later students would see how their training has advanced over what we had. Were you ever successful in doing this?

"I trust that you have fully recovered from your rather freakish accident and are enjoying the fresh air, sunshine and sea breezes of Hawaii."

Dr. Asher, I am sorry I failed to report to you that we most certainly did get a foot engine and it was on display in one of the museum cases that lined the walls on the first floor. I called Dr. Hine to be certain I was correct in that and he said I was. He also said that Dr. Gregory had one that he used in his lectures to the students to let them know, as you say 'how the teaching of dentistry has advanced'. I am happy I can tell you this has been done, because sometimes we weren't able to accomplish all the things we wanted to of the requests

we received from grads and students. But a retiring dentist gave us his entire office (which was quite old) several years ago and Dr. Hine saw to it that the students received a lot of information about how dentistry used to be done. Of course I was as interested as the students and used to stand and gaze at those lovely ivory handled instruments and imagine how I would have felt at having an itinerant dentist knock at my door and want to take care of my teeth with those beautiful instruments, not knowing that under that gorgeous display were the instruments he used and they weren't so pretty—in fact if I had those I am sure I would have said “no” in a very loud voice! It is wonderful to read about and know the progress that has been made just in the 27½ years I was with the dental school. I worked very hard all during the time I was there in getting the Alumni File in order and became familiar by name of those who had graduated before I was on the scene and to me they were just as much a part of the school as the students presently enrolled. Thank you for telling me that I succeeded in conveying that feeling to you and I hope to others. I think I could start out across the country and find one of our “boys” in just about every city. Just think we graduated 1761 in the time I was there. Although I have been away from the school for 3 years, I still am interested in what all of you are doing, and letters like yours make it all seem so worthwhile. Bless you for your thoughtfulness in writing and don't wait so long to write again.

1936

Dr. W. L. Hammersley and wife of 53 E. Walnut Street, Frankfort, In 46041, wrote just a note in July and said they were going to write me a real letter soon. I hope they hurry as I think this should have been in a week or so ago—somehow I always manage to be late with it. I keep hoping I will get just one more letter!

1938

Deceased: Dr. William Pearce McClelland, Chillicothe, Missouri. 10-15-73

1939

Dr. Jack Carr was at the banquet on that memorable Friday evening, taking pictures right and left. He asked me to tell all of you that his Class had 3 reunions so far this year! I think they are doing quite well, don't you? Some classes think they are doing exceedingly well if they have 1. There, Dr. Carr, I told 'em and I hope they follow suit and write and tell me about it.

Class 1945

Flash! Received card from Dr. Charles Vincent (copy has already gone to press but they are going to try to fit this in—let's hope!) postmarked Nairobi, Kenya! *“Greetings from Africa. I came here for one month to advise the Kenyan government and the University of Nairobi about starting a dental school. Should be interesting and unique experience. At present there really is very little dental treatment available and only a few dentists. Public knowledge about dental health is non-existent. Nairobi is a modern city with all convenience. Weather is excellent. I have seen no wild animals as yet but hope to go on a safari before I leave. Hope all is well with you and best wishes.”* Dr. Vincent, you really get around. I wasn't even surprised—ha! But since you said one month we are assuming you will return to the good old U.S. of A. and continue with your work at the Northwestern University. Please write after the safari and tell us all about it.

1950

Deceased: Dr. Ray Samuel Hall, Bedford, Indiana. 7-1-74

1962

Deceased: Dr. John R. Cavanaugh, Vincennes, Indiana. 1-9-74
Deceased: Dr. John Ring, Gary, Indiana. August 23, 1974.

1963

Dr. Ralph Schimmele received such an interesting letter from Dr. Keith Yoder '63

and his wife Karen Mausbaum Yoder who received her Associate in Science in 1962 and her B.S. in Public Health Dental Hygiene in 1963. Keith and Karen practiced in Goshen, Indiana, until August of last year when they accepted a three-year assignment at the Kilimanjaro Christian Medical Center in Moshi, Tanzania, East Africa. Dr. Schimmele said they were what he called "beautiful people". Their letter reads as follows:

"I wish you could see the place where I'm sitting and writing this letter. It's a beautiful, peaceful, rippling mountain river loaded with lava rocks. Many of them are six to ten feet in diameter. Others are just small and in such quantity that they cause this shallow river to flow around them and make small falls. It's a deep ravine with a 40-ft. rock wall on one side and a steep hill planted with corn and banana trees on the other side. It's a favorite spot. The boys are with me—they think it's great fun to climb around on the rocks and explore the small caves in the cliff. It must have been some sight when all of these rocks (actually all of this lava) came spewing out of Kilimanjaro.

"This is the first year since we have had children that we've gotten to the end of February without anyone being on antibiotics. That's quite an achievement. The weather here has been sunny, hot, and dry. I love it. The children are finished with school at 1:00 so we often go swimming and then play (try to play) a little tennis when it gets cooler. The boys are thoroughly enjoying our "farm." We're raising chickens for eggs and rabbits for meat. They're learning quite a bit about geography and other cultures through their association with other kids at International School. The big event of the week was a soccer game between the Greek School and our school. We won the game, but the most fun of the game was listening to the Greek cheers.

"All three boys (they're 9, 8, and almost 6 years now) have taken up chess and stamp collecting. Get children away from television and they do surprising things. Their stamp collections are really nice. It's a popular hobby among the boys at school, and since they're from so many

different countries they trade them like football cards. "I'll give ya two Finlands for one Burma." It's fun to watch and listen to their bargaining. Sara is getting big and looks like a female version of Dennis the Menace. Thanks to her brothers' influence she's becoming a tomboy. With a mighty shove and a shout of "a-way" she can handle her pesty brothers pretty well. She's learning Swahili as quickly as English, and I'm wondering if she'll construct sentences using just one language or if she'll mix the two.

"Living here has been very peaceful—with the exception of yesterday when we received word that our barrel and two trunks have been officially declared "lost." They contain our clothes, toys, golf clubs, dental supplies, etc., etc. Most certainly didn't feel a bit peaceful about that. We still have hopes that they will be found, though.

"Our work here has been very interesting. Keith has reduced some fractures with local anaesthetic, in the chair, and sent them home. They wouldn't think of being admitted for such a thing as a fractured mandible. These people are unbelievably tough. The other day it was reported that an 80-year-old man was carrying a 105-year-old man on his bicycle when they hit a stone and fell off. The 80-year-old broke a bone so the 105-year-old loaded him on the back of the bike and pedaled him to the hospital. The hospital also often treats children who are stepped on by rhinos. One of the favorite games is to put a stone on the nose of a sleeping rhino. The guy who awakens the rhino is the loser (but good!). A couple of weeks ago an African washed a sick woman with an undiluted solution of phenol. Of course she was burned terrifically and then developed tetanus, but she is recovering.

"I have gone out to some villages with the Child Welfare Mobile Team. It's actually a rather progressive outreach program by which they provide nutrition education, immunizations, continuing individual records on weight gain, symptomatic treatment of minor illness, and family planning counseling. The mothers of children who are malnourished are referred to the

nutrition unit which is a farm-like area near the hospital. Here the mother and her children are boarded for a period of time during which she learns not only how to prepare nutritious food, but also how to provide it. They are taught gardening and details of raising chickens, rabbits, cows, etc. I'm very impressed with the program, however, it has become so well attended that some days they see 700 to 1,000 mothers with children. That many people make accuracy difficult and limits the amount of time spent with each. The team consists of six trained Africans and they go to about 20 different dispensaries reaching each one once a month. Felt a little conspicuous at first being the only white person in the whole bunch. My Swahili is good enough now to make myself understood—I get laughed at pretty often, but that's all part of the fun of it. It was interesting to see the nutrition education materials they use, very definitely geared to their audience. Think I'll write an article entitled "Dental Health Education in East Africa—or—when you must chew the end of a stick to make a toothbrush and when you see white ants listed on the nutrition posters, it's time to revise your education methods."

"Please give our greetings to everyone."

Thank you Karen for writing such an interesting letter and Dr. Schimmele for sharing it with us."

1964

Dr. and Mrs. Michael O'Halloran report they are attending the World's Fair Dental Services as staff for three days, and having a very enjoyable time living in a mobile home family style at Expo Village, and send best regards to all. The address we have for Dr. and Mrs. O'Halloran is 4200 California Street, San Francisco, California 94118. If that isn't correct please let us know and thanks for taking time to write me a card at such a busy time. From the picture on the card it must really be fantastic.

1966

I felt like a roving reporter last Friday night at the banquet at Alumni Hall dur-

ing the Dental Alumni program. Among others who gave me bits and pieces of news, Dr. Jerome A. Follmer wants his classmates and all of you to know that he has moved to Anderson, Indiana and has been in practice there since April. He looked hale and hearty so it must be agreeing with him. Best wishes for your success, Dr. Follmar, and thanks for taking the time to tell me about your latest move.

Dr. Sybil Sanders Nieman of 7 Michael Drive, Little Rock, Arkansas 72204 heard my cry for news from the women dentists. She says in her letter, *"I was just re-reading the Alumni Bulletin: I always enjoy the Bulletin from cover to cover, and really pore over your column, looking for news of people I know. I noticed especially this time, you said something about wishing more of your 'lady dentists' would send news . . . so I decided to let you know that I, for one, am alive and well, and living in Little Rock."*

"You may be surprised to learn that I am teaching now, at the University of Arkansas School of Dental Hygiene, and the University of Arkansas Medical Center. I have been here for two years; I worked at the state health department for 6 months, then took the board exam, and shortly after that joined the faculty here. I teach a few courses, and instruct in the clinic. Our school is a little smaller than your dental school in Indianapolis. We have two classes, with 28 in each class, and a degree program. I must say, it is quite an enlightening experience to be working with a group of girls, after years of 'wheeling and dealing' with the guys. Guess what I found out . . . girls are pretty good people, too. I also had to discover, for myself, that teaching amounts to more studying than teaching. It must be getting to me, because I'm actually planning to take an education course in summer school this year, and am looking forward to the time when it might be practical to consider grad school."

"Arkansas is a nice place. The winters are mild and short, and trees are everywhere (even in town!). Fishing, duck hunting, and Razorback football are big here. I might add, the nicest people I've

met here are the dental people. Most of the dentists here are trained at the University of Tennessee, and, in general, the quality of treatment is very good. I don't have time to see many patients, but have been doing some pre-op treatment for Radiation Oncology and ENT at the med center. We don't have a dental school here, and now I'm beginning to realize how much I always took for granted. I especially miss the Oral Diagnosis and Oral Pathology departments.

"My boys are growing. Sam is 8 now, and John is 5. They're really good kids, for which I'm grateful and pleased.

"I accompanied our senior class to the ADA meeting in Houston in October. I talked with Miss Fisk and Dr. Ed Truelove there. They are both in typical good form, and it was great to see them again. I miss all the Indiana people . . . will keep checking your column for news; maybe some more will finally get around to writing to you, too.

"Last, but not least, Mrs. Harvey, thank you for all your help before and during my time spent at IUSD. Dental School is not easy, but you and a lot of other people somehow got us through. I'm always proud to say 'Indiana' and to me, Indiana is as much people as it is a place. Thanks!" Dear Sybil, hearing from you is such a treat. I may be wrong, but I think this is the first time you have written and I do hope you write again before too long. I think what you are doing is wonderful including having two fine boys. I spent 3 weeks in Little Rock back in 1945 and remember it as a very beautiful place and I'm sure it is even more so now. If you ever get back to Indiana and to Bloomington do look me up as I would be so happy to see you.

1968

Dr. Geraldine Tue-Fun Chan, Central Nurses Residence, Roosevelt Island, New York New York 10017 reported to Dean McDonald that she was still with the dental staff of Gouverneur Hospital and enjoying working with the Chinese patients. Last Thursday afternoon I called

our local Chinese Restaurant and asked them to prepare us a Chinese dinner and I would pick it up. Shortly after the phone rang and when I answered a voice said "This is Geraldine Chan, Mrs. Harvey"—for a moment I thought it was one of the girls from the Restaurant, but when she repeated her name I tumbled that it was our Dr. Geraldine Chan and she wanted Evelyn and me to have dinner with her Thursday evening. Evelyn was not able to go but I went and we just talked the air blue. She is doing such interesting work with the Chinese patients and has had occasion to use 5 of her 6-Chinese dialects! Isn't that something. She has bought a house in New Jersey and her mother and aunt are going to come and live with her. We really had a wonderful visit. She doesn't look a day older and is just as enthusiastic as always. Geraldine, thanks again for a delightful evening.

I almost forgot to tell you that Geraldine had a friend from Goshen with her and she told me something that Geraldine had modestly failed ever to mention. She is in Who's Who of American Women; Who's Who in the East and World's Who's Who of Women. Geraldine, I hope I have the names correct (I will let you in on a secret, I called Helen Campbell, the dental Librarian and she confirmed the names!) I am always glad to have an excuse to call Helen Campbell as she was librarian when I joined the dental school in 1944. She took some time off to rear a lovely young daughter and then she returned to resume the position of Librarian when Mrs. Walker retired. Somehow or other I managed to get a little bit of news in that about several people—after all there are no nicer people than dental ones!

1971

Dr. Virgil and Lea Ullom, P. S. Box 90-B, Port-au-Prince, Haiti, West Indies, are having an interesting time as missionaries in Haiti. This letter was written May, 1974: "*People—that's what we feel missions is all about. In the midst of the crowd we find the individual. It is through the individual that our Master chooses to work. He is concerned with each person's*

needs and the development of his total personality.

"We would like to introduce to you such a one—a young man we see every day who helps us in various ways. In the picture you see Abel Paul helping the children fix the flat tires of their bikes.

"We first met Abel while in Port-au-Prince during our French language study. he was among other boys who played soccer in the field across from our house. The only Christian in his family, Abel had left his home in southern Haiti to live in the city with his married sister. His bed was a place on the concrete floor, and his wardrobe consisted of mostly rags.

We realized we needed a watchman, since our house had already been broken into while we were away. Abel was anxious to work, so Virgil had him begin with watchman duties and helping in the yard.

"When it came time for us to move back to Cap Haitien we asked Abel if he would like to come with us. He had proved to be a very dependable worker and he hoped he could some day enter the Bible school here to prepare for leadership among his people. He seemed happy to come, but after arriving here found it very difficult to adjust to a new community where he had no relatives. Haitians tend to live in clans or family groups. They are careful to care for their own kin, but outsiders are not readily taken in. Abel continued to work for us but he lived in his own rented room in the neighborhood. He had times of depression and loneliness. His spiritual life had its testings, too.

"We did our best to encourage him, meanwhile praying that he would find Christian friends with whom he could share and pray. Soon some young men invited him to join them in a Bible study and prayer time early each morning. And in meeting with them Abel found new spiritual strength.

"This past year he has attended the school held in the mission church to complete his final year for entrance into Bible School. He has consistently studied hard while continuing to work part time around the house, yard, and clinic.

"He is excited about the possibility of attending Bible school this fall, but because there are many applicants he cannot be assured of admission. Please pray for us for Abel and other young men like him who will have a forceful impact on Haiti's future." Some people may find their lives dull and boring but not the Ulloms. I am certain they could tell of many, many other incidents as interesting as this one. I am sorry I can't send you the picture, but their three children are really growing and look very happy working on their bikes with Abel.

Dr. Dominic Lue, 83-60 118th Street, Apr. 4F, Kew Garden, New York 11415 wrote us in June: It's always a great pleasure to receive your letters. I am sorry you caught cold. Hope you will recover from it soon.

"My parents stay with us for 2 weeks after their convention in Seattle. They left for Yellowstone National Park last week, and will come back to New York and in the middle of June they are going back to China.

"I got a letter 2 weeks ago from International College of Dentists that I would be inducted as F.I.C.D. in this November. I am really happy about it. I am also happy to see Dr. Hine is a ranking member of the Committee of this International organization. Gabriel said both of you are his very good patients. His wife Ling is preparing for taking state board exam in June 15. I hope both of you get better." A later letter from Dr. Dominic reports that Gabriel's wife passed the Missouri board. Also that he was to go to Washington, D.C., in November 9 for FICD induction, and hopes to see some of his former teachers at that time. He sent me a picture of his little daughter—1½ years old—she is just so cute and posed most obligingly for her photo. In fact I feel sure she would win in one of those cutest baby contests, or something. But I can't get the picture in so you will just have to take my word for it!

I am sure we are all happy about Dominic's selection as a Fellow in the International College of Dentists. It is

quite an honor and I am sure he will be an asset to the ICD and that his association with that organization will be most beneficial to him. Dominic has really been busy. He also passed the general anesthesia specialty examination. I am so proud of him and I know his parents and family are too. I hope to visit him some day and get a real Chinese dinner in that big city of New York.

1972

We have just learned that Dr. Clark D. Galin is in the practice of periodontics with Dr. Jack H. Mishkin at 1190 Northeast 163rd St., North Miami, Fla. 33162.

Dr. Bogan passes on to us a letter from Dr. Charles W. Lander, USN DC Guam, Box 171 FPO San Francisco 96630 who writes: *"The past two years have really flown by stationed on Guam. The island is really beautiful and plenty of outdoor activities. With the urgings of Paul Hatrel (1971 Graduate Operative Program) my wife and I become scuba divers and haven't regretted that one moment. The waters are among the most beautiful. We have been fortunate to visit several of the Micronesia Islands (i.e., Ponape, Truk, Palau) as well as the far east (Manila, Hong Kong, Taiwan, Bangkok). We have enjoyed our tour so much that I extended and even went regular Navy. I must say that Dr. Ward was right about the opportunities that are available. Last fall I spent a month on a Patrol Gunboat on a patrol and surveillance of the Eastern Caroline Islands in Micronesia (Trust Territory). The trip was a total of 3000 miles at sea stopping at 15 islands. We even crossed the equator and were initiated into Neptune's Kingdom. My duty was to provide emergency dental care to the islanders. It was a fantastic experience with many rewarding moments.*

"The clinic at the Naval Station has 12 dentists. Five of which are specialists with the remaining seven in general dentistry. We are all given an opportunity to rotate through the specialty areas for a period of 4 months each. We even have independent duty on a one man-two technician Mobile

Dental Unit. All in all the professional end of my tour has been most rewarding and extremely educational. That leads me to comment on the fine education I received at Indiana University Dental School. I have been in contact with dentists from all over the U.S., and I feel that my training was far above average and technically superior to many areas of the country. In appreciation I can only thank the entire University staff for their diligent efforts."

Dr. Lander, you have added your voice to a sentiment expressed by many of your colleagues that I.U. School of Dentistry is one of the very best dental schools in the country. It makes us all happy when our alumni write back that they have little or no trouble holding their own. Thank you for writing Dr. Bogan such an interesting letter—so glad he passed it on to us and that you are getting the Alumni Bulletin which comes out twice a year. Do write again some day and tell us more of your sojourning with the Navy.

1973

Mrs. Manion sent us a note from Dr. Robert Achterberg giving us his new address which is: 762D Radar Squadron (ADC) Quarters 213, North Truro AFS, Mass. 02652. He said his Air Force Internship will be completed on July 1, 1974 and the new address is effective as of that date. He writes also: *"Nancy and I will be leaving the Washington, D.C. area on 1 July. We have a large 3-bedroom home waiting for us at North Truro. The radar site is about 10 miles south of the very tip-end of the Cape. I will be the only dentist on the base. One month per quarter we will be at Montauk AFS, Long Island, New York taking care of the dental needs at that radar site. Being the only dentist for both bases, I can pretty much set my own schedule, and I won't get too much static from anyone. My internship training should prove to be a very valuable asset, because there won't be anyone around to help me out of trouble."*

Bob, even though I have been retired 3 years I still remember you and it is so nice to get a letter and learn of your activities.

But it will not be long until the last class I helped to counsel and select is graduated and then the names will be strange. But just knowing they graduated from IUSD makes them important to me and I guess it always will. I hope so. Do write again as your classmates as well as all the rest of us like to hear from our alumni.

1974

Helen Succop sent me a letter she received from Dr. Denny L. Miller, 6266 Seaman Street, San Diego, California 92120. He writes: *"San Diego is all and more what they claim—we've been sight seeing and started sailing lessons this morning. A classmate, Don Moseley, has set up here and is doing very well—will start a graduate course in endo through the Navy in 2 weeks—also 3 day seminars in perio and crown and bridge in October, again Navy. I sit about 300 feet from a destroyer's bow—and hope they don't get trigger happy! We rotate through perio, endo, c & b, oral surgery and preventive during my tour of duty. I have been very impressed with the quality of work at the base. All those above me are dentists and are very helpful to someone so green to the real world. George Kopko is with me at 32nd St. and Lowell Mitchell is up at Marine Corps Recruiting Depot. George and I have completed the entire operative requirement at I.U. during our first month. We have lectures every Thursday with board specialists—this month it's Oral surgery. It is just amazing to find out all the different techniques from the new guys—California, New Mexico, Ohio, Illinois, Virginia, Tennessee, Florida, Washington, North Carolina and New York are some of the places the new ones are from."* He promised a letter would follow so maybe we will have more news next time from Dr. Miller.

Denny, I hope you remember me, because I certainly do remember you. It doesn't seem possible that you have graduated and are hard at work with the Navy. From all we hear from the dentists who decided to serve in the Armed Forces after graduation, it is a good thing and they

derive much benefit from the rotating internship programs, etc. And from your letter one thing is for sure, you meet people from all over. That is wonderful and I hope you continue to enjoy your tour of duty.

And that ends our notes for this time. Rather interesting that we have a letter from a graduate of 1974—at least it pleased me very much. Best wishes to all who read these pages—just hope they will inspire some more of you to write us. We never give up hope!

MINOR TOOTH

(Continued from Page 21)

other enamel hypoplasias and hypocalcifications) may also lend themselves to such orthodontic movement.

As a matter of procedure, the use of either an acid-etched resin "bleb" or a band and welded lug or bracket on the lingual of #12 probably would have kept the finger spring from repeatedly becoming embedded in the palatal gingiva.

Summary

Minor tooth movement by uncontrolled tipping forces and tooth guidance in a patient demonstrating the hypoplastic variant of amelogenesis imperfecta has been reported. Guidance of mal-aligned teeth with similar enamel defects should be given consideration.

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2. Law, D. B.; Lewis, T. M.; Davis, J. M.: *An Atlas of Pedodontics.* Chapt. 3, p. 78. Saunders, 1969.

AN INVESTIGATION OF CUSTOM FABRICATED HEAT VULCANIZED SILICONE IMPLANTS USED IN THE RECONSTRUCTION OF RESECTED HUMAN MANDIBLES

Raymond L. McCutcheon

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In order to successfully use the technique described and advocated in this paper, the prosthodontist and surgeon must have an understanding of the biological, physical, and engineering properties of the silicone, as well as the importance of adequate tissue coverage and the technique for proper immobilization of the implant.



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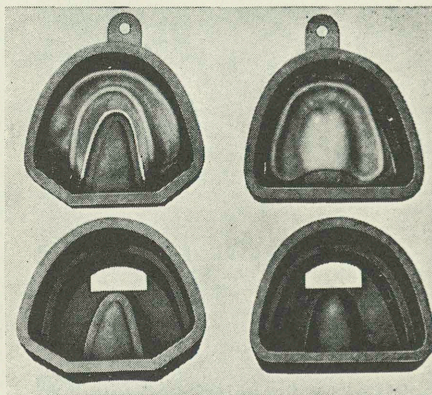
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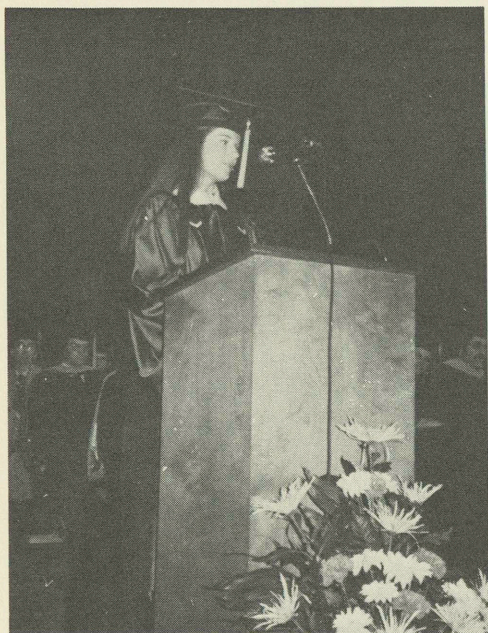
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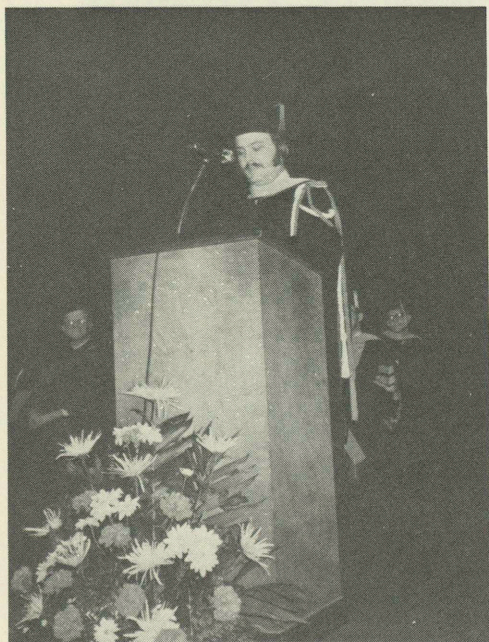
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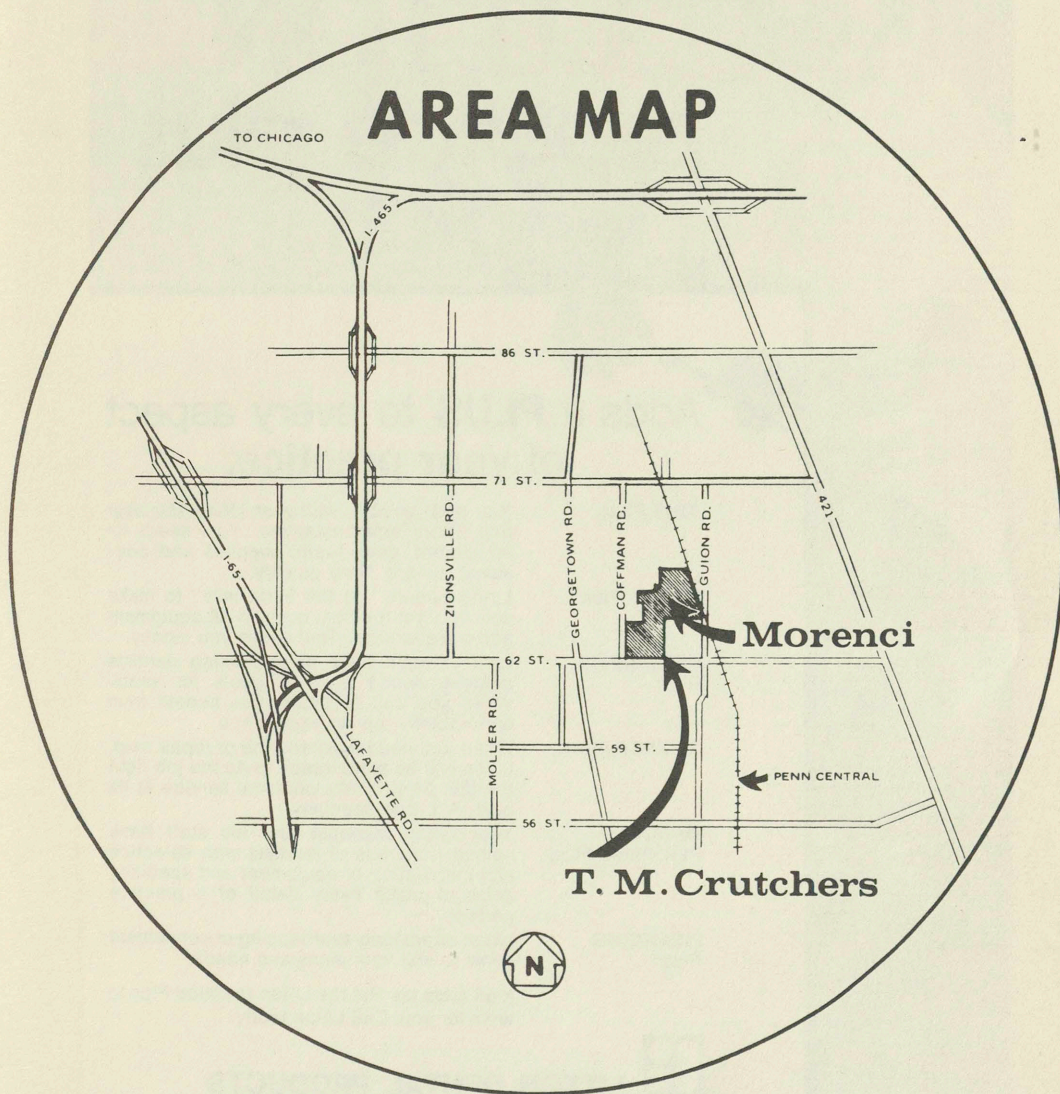
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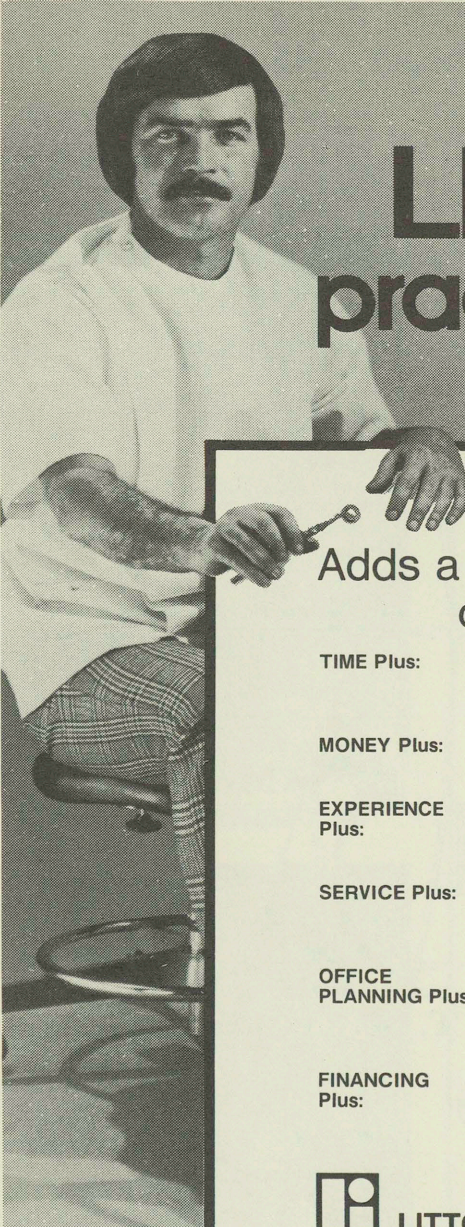
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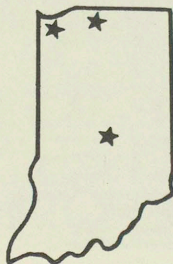
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