

Alumni Bulletin

Fall Issue 1976

SCHOOL OF
DENTISTRY

Indiana University

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School of Dentistry ALUMNI BULLETIN

Contents

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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.

Dental Care for the Dentally Indigent

Jeanne C. Sinkford, D.D.S., Ph.D.*

For the purpose of this presentation, I have included the following categories of individuals as dentally indigent:

the poor, who for economic reasons cannot afford adequate dental care;

the residents of rural and other underserved areas where access to dental services is limited or non-existent;

the chronically ill and aged and other institutionalized individuals in this country for whom oral health services are, at best, available only on an emergency basis;

the estimated 20 million children under the age of 12 who have never seen a dentist: and

the fearful and crisis-oriented patients who seek treatment for the relief of pain only; who are satisfied to come to the dentist time and again to have extractions and who are resigned to the fact that one day they will wear complete dentures.

The current system of health in the U.S. is large and costly. It utilizes about 4.5 million people—double the number it employed 25 years ago, making it one of the largest industries in this country. Spending for health care in the U.S. now totals more than \$100 billion annually or about 8% of the gross national product!¹ Dental bills of American families are in excess of \$5.0 billion despite the fact that less than half of the population visit a dentist's office each year.²

American industry loses over 100 million man hours of production time annually because of problems related to dental health.³ In a recent survey report,⁴ a startling but significant finding is that 46.8% of children under 12 had never

been to a dentist for treatment! Other national dental reports indicate that there are approximately one billion unfilled dental cavities in the U.S. today and that half the school age population has some form of malocclusion and gingival disease.⁵ Children between the ages of 6 and 11 years are generally afflicted with dental disease at the rate of 3 decayed, extracted or filled teeth per child.⁶ Thus, regular dental care that is so vital for this age group is missing. Twenty-five million adults have lost all of their teeth by middle age and another 25 million have lost half of theirs.⁷ Oral cancer strikes some 14,000 of our people annually, causing 1 in every 40 deaths from cancer.⁸ Each year more than 6,000 babies are born with cleft lip or palate.⁹

To further complicate the current health picture, we must be aware of the increased social pressures related to demands for health as a right for all—not just for those who can afford to pay. And we must be aware of the country's attempt to make health care available to all through support of some form of health insurance program, Health Maintenance Organizations, Neighborhood Health Centers, Third Party Payment Plans, etc. Although these efforts are being made to improve health care delivery where it is needed, we still operate without a clear-cut national health policy. Therefore, priorities related to health are likely to shift from administration to administration, thereby forcing health planners to "react" to federal fiscal and priority changes rather than to be active participants in these changes.

Dentistry in the U.S. has undergone steady growth as a health profession since the founding of the first dental school in 1840. In removing the proprietary and apprentice nature from dental education and

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This paper was presented at a meeting of the Expert Panel, Johnson & Johnson Co., in St. Croix, Virgin Islands, in March 1976.

patient treatment, the profession assumed the responsibility for setting standards for dental health, for diagnosis and treatment of oral diseases and disorders, and for assuring steady progress toward the elimination of disease through research and clinical patient care. Advances in technology (high speed, finger touch drills) and the use of pre-medication and local anesthetics have done much to reduce the anxiety related to a visit to the dentist. We have gone from a drill-fill and denture-oriented profession to a prevention-oriented profession during the past twenty years. Still, the health status of the people of this country has not changed significantly nor accordingly. I do not think that this should surprise us when we learn that only one-third of the nation's children receive proper vaccination against diphtheria, pertussis, tetanus and polio even though these vaccines are available and free at public clinics throughout the nation!

We have suffered from the lack of national health policy and a rationale for financing health care. There are those of us who have serious concerns about health planning strategies but who must be involved in making short and long term projections. If we consider that half of the nation does not visit a dentist annually—for even a screening examination—then we have nearly a 50% needy nation! Not that they need treatment, but they do need an oral health evaluation. In an effort to meet the dental health needs of a needy nation and anticipated demands for dental health services, our efforts have focused on the following areas during the past ten years:

1. *Modifications in dental education with the objective of increased dental health manpower*

Through Capitation awards to dental schools, we have been able to double the dental student enrollment within the past ten years. Schools responded to the Carnegie Commission's Challenge to increase enrollment to offset the antici-

pated increased demand for dental treatment.

2. *Experimentation with expanded function auxiliaries*

This concept envisioned the utilization of highly skilled dental assistants and hygienists trained in dental procedures traditionally performed by the dentist that could be delegated without a reduction in the quality of service received by the patient. Dental schools received TEAM grant funds from HEW to implement these programs. Also, it was envisioned that the expanded function auxiliary could be assigned along with dentists to rural and other underserved areas. The recent action taken by the House of Delegates at the ADA meeting in October will most certainly threaten existing programs and curtail expansion of these programs unless something is done to rescind the resolution.* which opposes the preparation of teeth, the placement, carving and contouring of dental restorations and the injection of local anesthetics by dental auxiliaries. The resolution further opposes any program or the funding of such program for training, education or utilization of dental auxiliaries that is not in accord with the resolution and places final decisions related to dental practice and utilization of dental auxiliaries with the state society and state board of dentistry.

3. *Other experimentation involving private practitioners* in the form of group and corporate practices, neighborhood health centers, HMO's, four-handed concepts, improved management techniques and increased utilization of auxiliary personnel. All of these changes have helped improve the system of delivery but have in no way reduced the cost of dental services. In fact, during the nine years since the 1967 base line of 100.0

* Resolution 861, ADA House of Delegates, October, 1975

was established for the Consumer Price Index, the costs of operating a dental practice have increased more than 133% while dental fees have increased 66.5%. Our technological advances and our system of delivery to date have not demonstrated that we can reduce operating costs or that a saving can be realized by the consumer.

4. *Targeted research objectives*

At the present time and because of "tight" research dollars, federally directed research dollars have been directed toward studies that are of major incidence and concern. For dentistry, NIDR has furnished substantial support for caries prevention studies, for periodontal disease research and for behavioral and developmental studies.

5. *Preventive dentistry* has become an accepted philosophy and ideal, not just a movement. Every dental teaching institution now includes prevention in its curriculum. Studies on prevention indicate that reinforcement is essential and the most effective programs (outside of the military) have been those that included the homemaker or "mother figure" as the propelling stimulus. We have not done nearly enough in our preventive public education and media utilization. Maternal and Child Care Benefits include an Early Diagnosis, Prevention and Screening Program which provides for a dental component that is now being implemented to the extent that the funding authorization allows.

6. *General practice and total patient care concepts*

General practice residencies have increased and general dentistry clinical experiences are being added to dental curricula across the country. The dental graduate of these programs is expected to be a highly skilled general dentist and an expert diagnostician. He is expected to be the primary care provider for dentistry, to reduce the need for in-

creased specialists (who come at a higher cost and perform limited services) and to be concerned with the general health and well being of the patient—including screening examinations such as those for hypertension, sickle cell disease, oral and pharyngeal cancer, diabetes, etc.

All of these efforts to provide health care, where, when and for whom health services are needed have been inadequate for we have failed to make the consumer an active participant in health; he has remained the health critic, the recipient and demander. We have failed to properly educate the American public in self assessment and health orientation. We have left the consumer out in the *diagnosis* of health. The World Health Organization (WHO) has given the following definition: "Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity."¹⁰ This is a holistic view of health but the WHO definition seems to imply that the patient has a role in the diagnosis of health in that his or her feeling of "well being" is the crucial criterion. This obviously cannot be the basis for a judgment of health. Consider the "healthy" individual with oral cancer—*undiagnosed*. Does the patient become "unhealthy" only when he or she feels bad? Or when the cancer is detected following an oral examination and biopsy? The patient's feeling of well being is not a satisfactory guide to oral health but is a very good indicator of how he (she) priority-ranks health and what he will be willing to give up or to do to maintain a level of health that is acceptable.

I would like to expand this concept further since our prevention studies clearly indicate the very significant role that the homemaker (mother or mother substitute) has in setting the level of family health and in nutrition. Can we afford to leave this type of responsibility to hostile teenage mothers with no husbands? The black

family, according to the July United States Census Report, is now headed by females in one out of three cases. This is more than three times the rate for whites.

What is even more indicative of social decay is that nine out of ten *families* in the U.S. with incomes under \$4,000 are black! The jobless rates for black males and black teenagers far exceed those for non-blacks. The November unemployment rate for blacks was 13.8% while the average reported for the nation was 8%¹¹. The black mother and head of a family who has to work eight hours per day, return home and cook and clean for her family with nothing better to look forward to than a repeat of the same day after day and year after year, must receive substantial support and motivation if that family is to grow and reap the benefits of our affluent society.

In my experiences in two inner city hospital clinics and in the dental school clinic, I have found that all of the needy mothers, regardless of race, want more out of life for their children than they have received. All of them are willing to bring their children in for treatment when they themselves are truly dentally indigent but they want their children to be secure and to have the things that other children have and things that they themselves did not have as children.

As we assess our present ability or lack of ability to provide adequate dental health services for the indigent and look to the future, we must take some very serious cogizance of plaguing questions such as what will be a more effective system of delivery than what we now have? Who will be the dental health care providers and who will pay for dental care for people that cannot afford to pay? Can we afford equitable care for all? To this, I would answer a qualified *no*—under our present system of delivery and with our present attitudes toward health and nutrition. HEW Secretary David Mathews¹² has just testified before the House Panel, an echo

of President Ford's view expressed in his State of the Union Address, that "we cannot realistically afford federally dictated national health insurance providing full coverage for all 215 million Americans". He went on to say: "But, I do envision the day when we may use the private health insurance system to offer more middle income families high quality health services at prices they can afford and shield them also from catastrophic illnesses." Dr. Mathews further declined to predict when the economy could support a National Health Insurance Program! When the secretary himself cannot commit himself on such a vital issue, it seriously affects the planning strategies that can take place at the state and local levels. I predict, however, that once we have distilled the biases against Medicaid, eliminated the abuses of the program, and instituted proper checks and balances, the Medicaid Program can be written into a national health insurance system, partially subsidized by the federal government and managed by the private sector at state and local levels. This does mean that the federal pie will have to be sliced differently, with more dollars going to health care but a base-option program should be available for all Americans.

As we look to and plan for the future, I believe the following strategies should be fully utilized to improve dental health care for the indigent and for all Americans:

1. The Health Planning and Resources Development Act of 1974 (P.L. 93-641) authorized a \$1 billion, 3 year program of health planning and resources development. The highlights of the Act include: a requirement that HEW issue guidelines on national health planning policy; specific procedures for designating health service areas; the creation of networks of Health Systems Agencies (HSA's) responsible for health planning and development; the creation of statewide

health coordinating councils and authorization for HEW to enter into agreements with State Health Planning and Development Agencies designated by the governor of each state. Health Service Areas (204) have been designated with general population sizes of 500,000 to 3 million. The Health Systems Agencies (HSA) for each of the health service areas are now being identified. The HSA will be private, nonprofit corporations or public entities which will be responsible for health planning and development in that area. HSA's cannot be educational institutions. The HSA's are to receive Federal Planning Grants to support their activities. If this Act is effectively implemented, the U.S. will have a mechanism for effective planning and development of health services based on population density, needs, availability of resources and all necessary health services.

2. Significant behavioral modification is needed in this country, especially as it relates to personal attitudes toward health and nutrition. This will not be easy in a country where alcoholism and drug abuse are still on the rise. In spite of the broad exposure given the Surgeon General's warning on cigarette smoking, there has been a rapid rise in smoking among women and teenagers. We have become flabby, comfortable Americans with our snacks, soft diets and lack of exercise. Air pollution continues to be a menace and viruses continue to be a major health problem. Still, we must begin somewhere and for the inner city indigent, I would suggest that health education be included at all levels in the public school curricula. Also, churches, other religious and civic organizations should include health education and counseling programs. A broader utilization of television media is needed that will allow prime time for health and nutritionally

related subjects and sponsored at times when *families* can participate. Preventive dentistry and plaque control instruction should be taken to the pre-school instructional level.

3. For states where fluoridation is not available in the drinking water, special dental health programs are needed to assure that individuals receive the proper counseling and guidance regarding resources for fluoride, caries prevention, plaque control and diet. I had nearly forgotten what children's teeth looked like prior to mass fluoridation until I visited Florida recently. The teeth of children from middle and upper income families looked far worse than the teeth of ghetto area children in D.C.!
4. I would recommend that we take a look at our systems of delivery and utilization of auxiliary personnel. The availability and logistics of dental services do present problems for inner city parents who both work. Practices in centers and shopping malls that are well lighted and where parking and police protection are already available could provide for evening dental services. Also, neighborhood dental clinics should extend full services on Saturdays and on school "break" or vacation period. Dental screening examinations could take place in the schools, churches and in mobile units that could be stationed in various parts of the city on an announced date basis. Auxiliary personnel such as neighborhood health advisors, expanded function auxiliaries, nutritional advisors, etc. should be utilized in group practice settings to improve the quality of services rendered and to increase the patient load.
5. A careful assessment of the maldistribution problem must be made. It is my personal opinion that the payback clause in pending Professions Capitation legislation will not solve the regional maldistribution problem. The com-

munities that now need dentists need experienced dentists—not recent graduates who are just paying back time to the government for their education. I feel that experimental programs such as the Shortage Area Projects that are currently being funded under the Special Projects Grants Program, have exciting possibilities. The students in these programs spend time in a remote site in a practicing dentist's office for a period of two to three weeks. Before the student goes to that area, he is sensitized to the needs of the patients, economics of the area, advantages of practice in the area and other peculiarities of the area. Students are allowed to select their site and the practitioner is considered off-campus faculty. The practitioner is sensitized to his responsibility as a teacher and recruiter through seminars sponsored by the school for off-campus faculty. Recruiting dental students from designated shortage areas who plan to return home to practice is another possible mechanism, but that would not provide immediate results. Still, it should be explored.

6. The dental student, during his undergraduate training experience, must be sensitized to the needs and peculiarities of the indigent patient and on how to treat these patients. Dental school clinic patients in general are paying patients, they are sensitized to oral health to the point that they have come to *seek treatment* and they come on a regular basis because they know if they don't, they will be dropped or the student's progress will be affected. Our students need to know how to deal with the fearful patient, the chronically ill patient, the developmentally disabled patient, the drug addicted patient. Therefore, we must make use of off-campus training sites such as neighborhood clinics, neighborhood health centers, hospitals, nursing homes and private offices to

provide the clinical experiences that cannot be gained in a dental school clinic.

In summary, I feel that an evaluation of our current system of delivery and new health strategies are needed at the present time in keeping with the existing state of the economy. It is my belief that through significant behavioral and attitudinal changes toward health and through effective preventive programs, we can significantly reduce the numbers of dentally indigent people in the United States.

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Photoinactivation of Herpes Virus: A Controversial Treatment

Mitchell H. Wohlmut^{*}

A common problem to the dentist and his patient is the "cold sore" or recurrent herpetic lesion. To the dentist this crusty, bleeding and tender area represents a place to avoid with rubber dam or instrument handle. It also provides a topic of conversation when the patient asks why these sores so often appear after dental appointments. Treatment of Herpes Simplex also poses a difficult challenge to the dentist. What does one tell a patient to do for this recurrent irritation? Should the patient be referred someplace? If so, where? Has anyone successfully treated herpes virus lesions? Many questions need answering.

Herpes Simplex virus, a quite common human pathogen, has plagued man for many centuries, with the Egyptians having recorded cases as early as 2000 B.C.¹ This virus causes primary and recurrent infections of the skin and mucous membranes in the form of multiple vesicular lesions which, especially in the primary stage, cause extreme discomfort to the host. Moreover, Herpes Simplex has recently been implicated in human cancer.²⁻⁴ Herpes Simplex infections have been divided into two groups: Herpes Type I (HSV I), infections above the waist; and Herpes Type II (HSV II) or genital Herpes, infections below the waist. These two types are also serologically (immunologically) different. Until recently, anti-herpes therapy has been relatively ineffective in promoting rapid healing or in preventing recurrence of infection. In the last ten years, however, scattered investigations have shown promising results with the use

of photodynamic inactivation in treating both Herpes Type I and II.

In this "dye-light procedure"⁵ a heterotricyclic dye such as neutral red or proflavine is applied to the exposed herpetic lesions and the lesions are exposed to light in the visible wavelengths. The virus is inactivated and rendered ineffective at that time. Since its initial trial, this method has been investigated in over one hundred studies with quite variable results. At present there appears to be justification both for and against the continued use of photoinactivation of herpes simplex virus.

This article reviews the literature on photodynamic therapy for herpes simplex virus infection in the hope of shedding some light on the controversy which surrounds this method of therapy.

Herpes viruses are large (150-200 nm in diameter) intranuclear replicating viruses containing a core of double-stranded DNA and a capsid containing 162 capsomeres surrounded by a lipoprotein envelope. Intracellular viral replication occurs in a permissive cell and cell lysis results in the release of infectious viral particles. Incomplete infection can also occur in certain cells. At times these viruses can establish a stable association with the host cell DNA by integration, thus producing no clinical signs of disease.⁶ This phenomenon may account for the apparent remission and recurrence of this disease. However, some investigators⁷⁻⁹ believe that HSV-I remains in a latent state in the body within nerve sheath and sensory ganglia. This hypothesis has been validated since HSV-I has been isolated within the neural tissues. The theory of neural based latency renders the virus inaccessible to circulating antibodies when it is in its non-infectious state.

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Recurrent infection assumes a definite clinical form of localized disease.¹⁰ Recurrent vesicular lesions tend to break out on the same part of the body of any given individual. The face, primarily the lips (herpes labialis) and the cornea (herpes keratoconjunctivitis), and the genitals (herpes genitalis) are the most common locations of recurrent herpes infection. Occasionally serious complications result in herpetic encephalitis which may result from recurrent as well as primary infection. Deficiencies in the cellular immune response and certain systemic factors which produce minor aberrations in host resistance such as allergic reactions, emotional stresses, fever, menstruation, or local trauma, may permit recurrence of infection with HSV-I.^{11,12} Excessive exposure to sunlight or cold can also precipitate episodes of recurrent infection.

Until the development of photodynamic therapy, there was no single generally effective treatment for herpetic lesions of the skin and mucous membranes or any means of preventing recurrent lesions. Some success has been obtained with synthetic Poly-Inosinic-Cytidilic Acid (Poly I:C), an inducer of interferon. However, trials have shown this drug is toxic to man when administered systemically.¹³ Recently, topical applications of ethylether^{14,15} and thymol¹⁶ have shown promise as anti-herpetic agents. Recurrence rates in these studies have not been evaluated. Other therapeutic approaches include liquid nitrogen therapy, superficial x-ray therapy, smallpox vaccination, aspirin (anti-pyretic), boric acid, idoxuridine, and a variety of ointments and antibiotics. All have provided only symptomatic relief at best. Idoxuridine has been successful in the treatment of herpetic keratoconjunctivitis.

Some success has been obtained with the immunological approach through use of specific antigen therapy.¹⁷ HSV-I antigen therapy is available in Europe, Mexico and this country and has been used

successfully for certain patients with immune deficiencies.¹⁷

The mechanisms of photodynamic inactivation of herpes simplex virus are not totally understood. Different dyes may react through different mechanisms which may further depend on environmental factors.¹⁸

A number of investigators have studied the effects of photosensitizing dyes on various viruses. These studies used the tricyclic dyes such as neutral red, proflavine, toluidine blue and a close relative, crystal violet.¹⁸⁻²⁴ From these studies and others,^{25,26} the following hypothetical mechanism of photoinactivation of HSV has been proposed. During replication of HSV in cells containing a heterotricyclic dye, the dye molecules are intercalated between the stacked bases of the viral DNA. The dye-DNA complex absorbs light energy and, in the presence of molecular oxygen, a reaction results which disrupts the structure of the viral DNA. This leads to the loss of the guanine bases, leaving a gap in the base sequences and subsequent strand breakage in the viral DNA, rendering the viral particles incapable of completing the replicative cycle.

While the above mechanism is generally accepted, another mechanism may account for at least part of the infectivity inactivation.²⁷ If the cells in the treated herpetic lesions are themselves inactivated, this could result in the decreased capacity of the cells to support HSV growth, thus inhibiting or even killing the viral parasite.

In vitro studies as early as 1933²⁸ showed that isolated preparations of HSV and several other animal viruses could be photodynamically inactivated in the presence of methylene blue and visible light. Willis and Melnick²⁹ showed that purified HSV could be irreversibly and permanently photosensitized in the presence of neutral red, proflavine or toluidine blue, by exposure to visible light for 10 minutes. This in vitro study stressed the importance of dye concentration, temperature and pH

of the system for total efficacy of the method.

Wallis et al³⁰ demonstrated that HSV could be grown in cells pretreated with neutral red and that progeny virus became sensitive to light. Again the quality of the dye preparation was stressed to avoid host cell toxicity. On the basis of this work, the clinical treatment of herpetic lesions by photodynamic inactivation was suggested.

Rapp and his colleagues³¹⁻³⁴ took issue with Wallis by demonstrating that UV irradiation would separate the oncogenic from the lytic properties of HSV-I and other viruses. These studies also presented the first evidence that HSV-I, HSV-II, and cytomegalovirus could induce primary oncogenic transformation of normal cells. Subsequently Rapp showed that photodynamic inactivation using neutral red and fluorescent light could likewise unmask the oncogenic potential of these viruses. These viruses were rendered ineffective with respect to infectivity but were able to genetically transform hamster embryo cells in vitro. Cell lines were established from clones of these cells. The cells lost contact inhibition, typical of tumor cells, and HSV specific antigens were demonstrated in the cytoplasm of the transformed cells. Later work¹⁷ showed that these cells caused malignant tumors when implanted in hamsters. Thus, Rapp and his colleagues recently warned that clinical photodynamic therapy for herpetic lesions may be quite hazardous.³⁵ Jarratt and his colleagues repeated Rapp's studies and found transformation of cells with UV light inactivated virus but, despite many trials they were unable to transform cells with photodynamically inactivated virus.³⁶

Photodynamic inactivation was first tested as a potential therapeutic procedure for herpes virus-induced keratitis in rabbits.³⁷ The keratitis was resolved by treatment with proflavine dye and visible light exposure; improvement was not observed in appropriate controls.

On the basis of that animal study, photodynamic therapy on a clinical level was developed by Felber et al^{38,39} and shown to be effective in resolving HSV infection and also in reducing the recurrence rate. This initial therapy consisted of rupturing early vesicular lesions with a sterile needle, applying 0.1% aqueous neutral red, and exposing the lesions to fluorescent or incandescent light (15 watt) at a distance of 6 inches for 15 minutes. Six hours later they are exposed to light for another 15 minutes. The double blind study used a control group which was given a placebo dye plus light. The placebo effect showed symptomatic improvement in the control group. The experimental group realized only a 50% improvement in healing time and a 50% decrease in recurrence rate. The control group showed similar results.

Similar studies using neutral red dye and the aforementioned procedure have shown variable results. In treating 30 patients Friedrich⁴⁰ used a 1% solution of neutral red and 15-minute exposure of fluorescent light (22 watt) at 6-inch distance. Symptomatology, healing rate, and recurrence rate showed notable improvement in these patients. Apparently no control patients were used in this study, however.

Conversely, when Myers et al⁴¹ used a 0.1% neutral red solution and a 100 watt incandescent white lamp on 96 patients, they reported no significant effect of the neutral red dye over the placebo (phenol-sulphonphthalein) dye.

These conflicting results would tend to implicate an unknown variable in the neutral red method of photoinactivation. The dye concentration was different in these studies (1% to 0.1%), as were the light source and timing. Further investigation of this method is indicated.

Additional experience with the dye-light technique was described in an interview with a group of dermatologists and gynecologists.¹⁷ It was emphasized that

the stage of infection was critical. The early rapid replication stage of the infection (vesicle stage) is the time when the virus is most susceptible to photodynamic inactivation. This occurs 24 to 48 hours after onset of the infection. After this time, the virus is in a quiescent stage and the treatment is ineffective. It was also emphasized that it takes up to eight hours to photosensitize the intracellular herpes virus. The light application in this instance could be a major factor.

Melnick and Wallis⁴² have reviewed the efficacy of the neutral red dye in photoinactivation methodology. They found that it was the least effective dye of the heterotricyclic group, proflavine was 35 times more effective than neutral red in eliminating herpes virus in the infected skin. In fact, many investigators have ceased using neutral red, probably because of its poor result in treatment of herpes.

Proflavin dye has produced more consistently favorable results in clinical and in vivo applications. Kaufman et al⁴⁴ treated 49 women for herpes genitalis using proflavine dye (0.1% aqueous) and a 150 watt incandescent light (10 minutes at 6-8 inches distance). Although the primary herpes patients showed little clinical relief, in those with recurrent herpes the disease had a markedly shorter clinical course. Control patients were not used. Vernell,⁴⁵ Lanier,⁴⁶ Taylor,⁴⁷ and others have shown varied success with the proflavin dye technique, but none of these reports included the long-range or extended results of therapy. Again, further work is indicated.

The potential risks from photodynamic therapy of herpetic lesions have been alluded to by proponents of its oncogenic potential. At present, however, in vivo data on the long-term risks are lacking. Based on a number of in vitro studies already mentioned, the following are possible long-term risks:

- 1) The unmasking of oncogenic potential of herpes virus.

- 2) The increasing susceptibility of cells in the treatment area to transformation by tumor viruses.
- 3) The induction of possible latent viruses by this treatment.
- 4) The conversion of normal cells into malignant cells by the mere irritative quality of photodynamic action.

Photodynamic therapy of herpetic lesions could theoretically lead to long-term risks such as carcinogenesis. Quantitative estimates of the risk are not possible at present since little directly pertinent data are available and since exposure-dose relationships are quantitatively quite difficult to obtain. It is true, however, that the dyes in question have been used for many years as antimicrobial agents, both internally and externally, on open lesions with no reported oncogenic change. It is also true that the herpes virus alone has been implicated in human carcinogenesis.⁴⁸⁻⁵⁴ Thus the controversy continues. Chang⁵⁵ also refutes the efficacy of topical therapy of herpes virus by pointing out that herpes in the latent stage has been known to reside in the sensory ganglia near the sites of recurrent infection. Thus, the difficulty in managing recurrent herpes lies in dealing with the problem of eradicating latent infection in the ganglia which are inaccessible to topical drug application.

The photoinactivation of HSV-I and HSV-II is now being carried out in many centers on an experimental basis. Dermatologists, gynecologists and dental specialists are using this method clinically to test the long-range results of dye light therapy. The Indiana University School of Dentistry Department of Oral Diagnosis/Oral Medicine is conducting a long-range study using 0.1% proflavine dye and incandescent light. This study will cover at least three years and comprehensive records will be kept.

At present the dentist is limited to palliative measures of treatment or referral to one of the aforementioned specialists. The above studies are on a purely experi-

mental basis and the patient should be informed as such before referral.

SUMMARY

A procedure for treating primary and recurrent herpes simplex virus infections by photodynamic inactivation has recently been developed. The treatment consists of applying a photosensitizing heterotricyclic dye topically onto unroofed vesicles of the viral lesions and then exposing them to light of the visible wave lengths (white light). This method has been tested in vitro, in vivo and clinically and is considered effective in reducing the infectivity of both oral and genital types of herpes virus. This procedure has been criticized and warnings have been voiced in the literature that the treatment may be potentially hazardous, with possible long-term risks of cancer in the treated areas. On the other hand, since herpes simplex, particularly recurrent infection, is a source of discomfort, pain, and in certain cases, lethal infection, and since the virus itself has been implicated in human cancer, photodynamic therapy could be defended and its further use in clinical investigations encouraged.

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Dentistry in West Malaysia

Chong Lin Chew, Graduate Student in Dental Materials

"Dental treatment and education are very expensive in the United States," a friend of mine told me before I left home to begin my studies at Indiana University. There are other aspects of dentistry here which are also different from those in my country, Malaysia. These may be attributed to differences in culture and economic status.

Malaysia is composed of two regions: West Malaysia, comprising the Malay Peninsula, and East Malaysia, consisting of the territories of Sabah and Sarawak on the island of Borneo.

West Malaysia has an area of 51,000 square miles and a population of about ten million. There are four groups of people—Aborigines, Malays, Chinese, Indians and Pakistanis. The Malays form 50 per cent and the Chinese 36 per cent of the population. Most of the people depend on agriculture, the most important cash crops being rubber, oil palm and coconut. The average income per person is about U.S. \$150 per month. The National Language is Bahasa Malaysia.

The author's intention is to give an account of his personal experience and to describe, to the best of his knowledge and understanding, how dental services are provided in West Malaysia at the present time. Private practice will not be discussed except to say that about 60-65 per cent of graduate dentists are in private practice. The practice is quite similar to that in other countries.

Ancestral Knowledge

Before dental graduates were trained, treatment was given by people who had learned what they knew from their ancestors. Since we have a plural society, different methods of treatment were given for the same ailment. Herbal treatment might be given, or people might visit the

"Medicine Men." Such forms of treatment are still sought by some people.

It is the desire of every country to make health services easily available to the people. The way this is done varies from one country to another. As far as dental services are concerned, West Malaysia has put into practice various methods to achieve this end. In each district, there is a Hospital Dental Clinic. This clinic is managed by the graduate dentists. Usually, there is also a Dental Specialist to whom referrals may be made. Main Health Centres have been set up in the large towns in each district. The dental clinic in such centres is also managed by a graduate dentist. In addition to these Main Health Centres, there are Sub-Health Centres in the smaller towns. It is the responsibility of each Main Centre to provide health services at four Sub-centres. These Sub-centres are managed by a skeleton staff. The dentist has to visit each Sub-centre weekly to provide dental treatment to the people staying in surrounding areas. When there is no dentist in a particular Main Health Centre, this treatment is given by the dentist from the hospital. This occurs because of a shortage of dentists in the government service. Only "emergency" treatment is given at these Sub-centres. This includes extractions and placing of temporary restorations in patients with rampant caries or large carious lesions.

"Dental Nurses"

To improve the dental health of school children, dental clinics are set up in primary schools (Grades I to VI). Treatment here is given by the "Dental Nurses." The nurses do restorations and extractions of primary teeth, Class I restorations of permanent teeth, give talks on dental health to the students and also organize tooth-brushing drills regularly.

The cost of dental treatment at the government clinics is greatly subsidized. This is to make the basic dental services available to the population. For example, a set of maxillary and mandibular complete dentures costs only U.S. \$16 and an extraction costs 40 cents. Extractions would be free if more than five teeth had been extracted at the same clinic. However, permanent restorations are not done for adults. They are referred to the private practitioners. This is because of the heavy work load, combined with the shortage of dentists in the government service. Priority of treatment is given to school children from Grades I to XI. It is believed that arresting dental problems and providing dental health education at a younger age will result in better dental health of the general population in the near future. It is also expected to reduce the future work load. Dental treatment for these school children is free, except for appliances when a nominal fee would be charged. This free treatment is also given for pre-school children.

To reduce the shortage of dentists in the government service, the Government introduced the National Service System in 1972. New dental graduates are required to do two years of compulsory National

Service working in the government dental clinics. They may be sent to work in any place in the country. Only after finishing these two years of service will they be permitted to go into private practice should they decide to do so. About 65-70 percent of them leave the service on completion of the two years. They also have the choice to serve in the Armed Forces as dentists for three years instead of the two in the government clinics. In this case they treat only members of the Armed Forces.

The Government has also employed dentists from countries like Pakistan and Indonesia on a contract basis. After serving their contract, they must return to their own countries if their contracts are not renewed. This is an agreement made between the countries involved.

Language Examination

The starting salary of a dentist in the government service is about U.S. \$400 per month with a yearly increment of U.S. \$20 per month. A dentist needs to pass a Malay Language Examination to get his increment after the third year of service and for promotion purposes. There is no limit to the number of examinations he can take. However, only one examination is conducted each year.



The new Faculty of Dentistry (dental school) building at the University of Malaya.

The number of people accepted to be trained as dental personnel is small. The only Dental School in the country is at Kuala Lumpur, the capital. About thirty-five students are accepted each year. This is a very new school, started four years ago, and the first class of students will graduate this year. The tuition is about U.S. \$300 per year, with instruments loaned free to the students. (Previous dental graduates in West Malaysia were mainly trained in the University of Singapore, as is true in the author's case.) The curriculum covers four years and is quite similar to the U.S. curriculum. The students begin clinical treatment in the second year. However, the fourth year program is different. There is no Family Practice Program nor provision for intramural or extramural elective courses. Instead, lectures and clinical work continue in the fourth year. There is no State Board Examination. Graduates can start practice on passing the Final Professional Examination in the fourth year. To promote education, the Government has sponsored a few scholarships a year for postgraduate dental studies. Most graduates are sent to England to do this.

There is a Dental Nurses and Technicians Training School. About thirty students are accepted for the dental nurses program and a smaller number for technician training. The Dental Nurses enroll for a three-year course, about half of that time being spent in the school and the rest of the time being spent working in the school clinics under the supervision of the dentist. They are paid an allowance while training. After graduation, they work in the school clinics and are not permitted to work in any private practice.

Personnel Categories

There is no school for the training of Dental Assistants. Those who are accepted are trained in the dental clinics by the dentists.

Dental treatment is given by three groups of dental personnel: Graduate

Dentists (Dental Surgeons or Division I Dentists), Dental Nurses, and Registered Dentists (Division II Dentists.) The main difference lies in the limit of dentistry they are allowed to practice.

The graduate dentists in the government service are divided into two main groups. Graduates from recognized dental schools need not do a period of internship. Those whose degrees are not recognized, e.g. from India and Taiwan, are required to do two years of internship. After completing their internship, they will have to take a form of Board Examination. Only after passing this examination will they be in the category of the other graduates.

The responsibilities of the graduate dentists are many and varied, depending on where they work. For example, in the town where the author worked in a Hospital clinic, the work load was heavy. The work included the practice of general dentistry, the training of dental assistants, and the supervising of dental nurses and general administration. Dental problems of hospital in-patients also were our responsibility. Outside the clinic, the dentist has to give talks to schools on dental health, organize tooth-brushing drills in schools where no clinics are set up, travel to Sub-centres to give treatment and participate in health exhibitions. At the Sub-centres, 100-120 patients may be treated in one morning. The main treatment given is extractions.

Periodic Inspections

It is also the responsibility of the dentist to inspect the clinics of the Registered Dentists once a year to ensure that their clinics and equipment are hygienically maintained. In most Hospital clinics, the dentists have to go on night calls. Patients seen include those with post-extraction bleeding, maxillo-facial injuries, etc. Only emergency and simple treatment are given. The number of days that a dentist will be on call depends on the number of dentists in that hospital. For example, if there are

only two, then each dentist would be on call for two weeks in a month.

The dental nurses serve as Dental Auxiliaries, with considerably expanded duties. They provide treatment at the school clinics. The kind of work they do has already been described.

The Registered Dentists have their own clinics. They do not attend dental school but begin as apprentices for a few years and then apply for a license to practice. However, the Government has now stopped the registration of this group of

dentists. The existing ones are permitted to continue their practice, but no new ones will be registered. They are allowed to practice general dentistry except for surgery and dispensing of certain drugs.

In conclusion, the author would like to say that it is not his intention to make any judgments as to which country has a better dental service. The present system of dental service in Malaysia may not be ideal, but it is the best the country can do right now, until the problem of manpower shortage is solved and the economy improved.

Dr. Hobo Describes Japanese Dental Facility

During a recent visit to the Indiana University School of Dentistry, Dr. Sumiya Hobo (M.S.D., 1964) described a remarkable new center for continuing education, known as the International Dental Academy, which he has developed in Tokyo, Japan. Dr. Hobo is Director of the Academy, which occupies a beautiful modernistic building that was completed last year. The three-story structure contains 10,000 square feet and houses up-to-the-minute clinical and laboratory facilities, including notably the J. F. Johnston Hall which may be used either as a lecture room or laboratory area. It is named in honor of Dr. Johnston, Dr. Hobo's revered teacher and long-time friend.

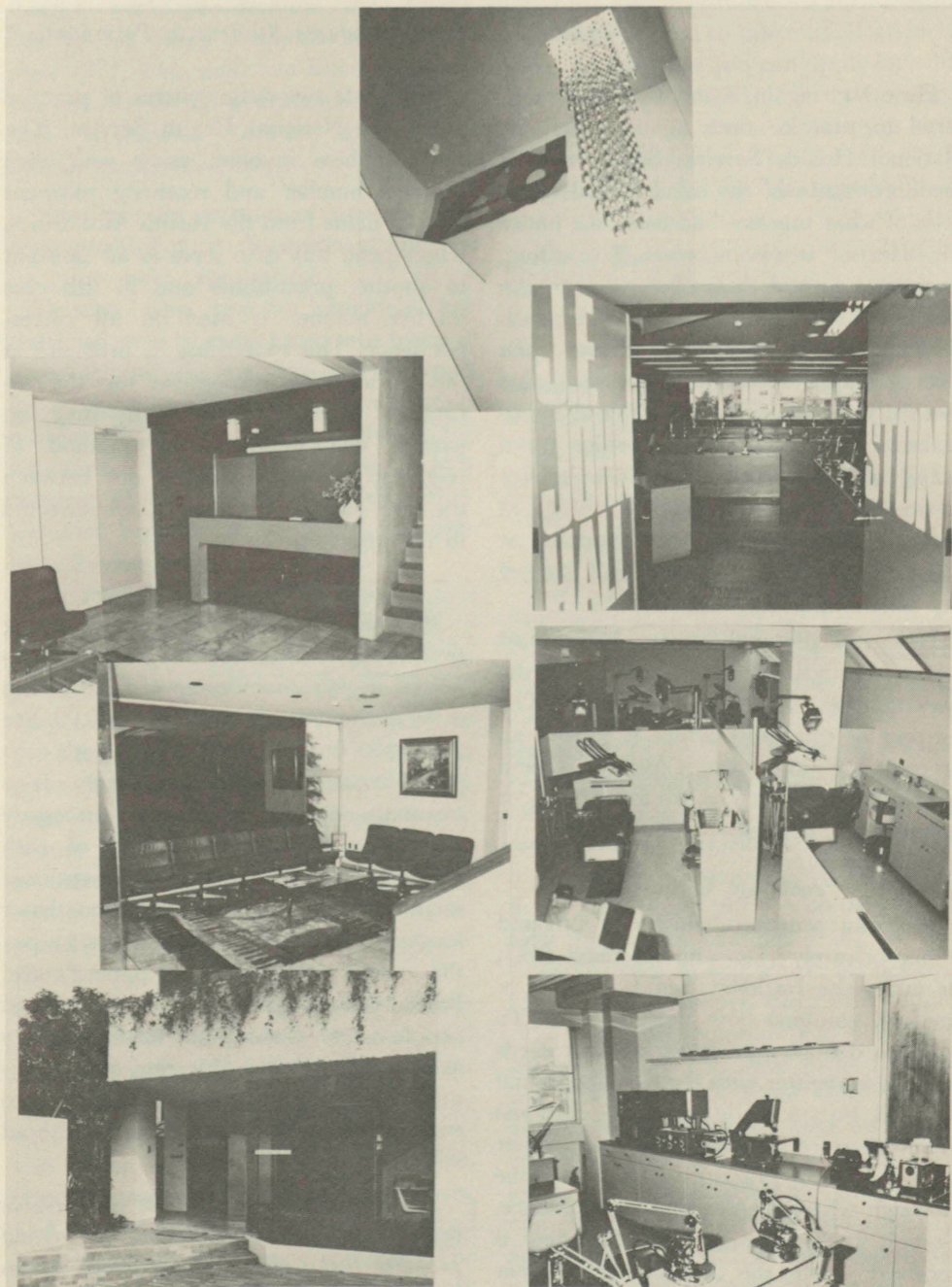
Of Dr. Johnston, who headed the Department of Fixed and Removable Partial Prosthodontics at IUSD when Dr. Hobo was a graduate student, he says: "Dr. Johnston opened my eyes to dentistry. He changed my life."

The International Dental Academy has a staff of 45, including dentists, assistants,

and laboratory technicians. About 150 practitioners a year take short courses at the Academy building, and a total of some 2,000 dentists receive training in courses sponsored by the Academy in other facilities. The Academy is affiliated with the dental school at UCLA, and faculty members from that school occasionally present Academy programs. Dr. Hobo is a Visiting Professor at UCLA and is also a Professor at Tohoku Dental University in Japan. He has twice served as a faculty member at IUSD, most recently in 1970.

When Dr. Hobo first returned home from Indiana in 1965, he established a small institute for continuing education. Graduates of his CE programs soon formed the Sumiya Hobo Society of Prosthodontics, which now has 1,000 active members. Annual meetings are held (including one that was presented in Hawaii and another in West Germany) and lecturers have included Dr. Roland Dykema and Dr. Ray K. Maesaka, of the IUSD faculty, and Dr. James House, former faculty member here.

Dental Clinic in Japan



VIEWS OF THE INTERNATIONAL DENTAL ACADEMY IN TOKYO JAPAN . . . Dr. Sumiya Hobo, Academy Director and IUSD Alumnus, provided these photos of the Academy. Clockwise, from lower left, they show: (1) the building entrance, (2) reception room, (3) reception desk, (4) chandelier in the great foyer, (5) J.F. Johnston Hall, (6) operatory scene, and (7) laboratory. (Dr. Hobo says that the tapestry in the top photo reflects his professional life, as it contains the letters "IU," "UCLA," and "IDS.")

Practicing Dentistry Under A National Health Service

Nicholas C. Mahon, Graduate Student in Periodontics*

Here I go again, I thought, as I registered to practice once again under the National Health Service. Somewhere in the dim depths of my mind lurked memories of what practice had been like under the "Health" five years before. Frustration, despair and total dissatisfaction with the process of practicing dentistry under such a system had finally come to a head when after umpteen letters over a period of nine months the authorities had allowed me to make a three unit anterior bridge for a grand total of \$54.00. My net income after laboratory expenses was \$10.00. "I could make a better living as a doorman at Claridge's," I said to myself as I packed my bags and left.

However, personal reasons had forced me to return to England and to all the uncertainties that went with it. The purpose of this short article is to give an account of my own experiences and feelings about what it is like to work under bureaucratic control.

Procedure Outlined

One can practice dentistry in England either privately (i.e. with no fixed fees), or under the National Health Service, or one can combine both types of care. To practice dentistry privately, all one needs to do is to register with the General Dental Council, but to work under the National Health Service a dentist must also register with the Family Practitioner Council in the Borough where he/she wishes to practice. Several weeks later a contract number is received from the Family Practitioner Council, which must be used in all future correspondence.

*Dr. Mahon practiced for four years under Britain's National Health Service. He has also practiced in South Africa and Australia.

There are two main systems of practice under the National Health Service. The first of these involves using your own contract number and receiving payment in your name from the Health Authorities. The second way is to serve as an assistant to another practitioner and in this case his/her number is used on all correspondence. This system has its problems as the principal is responsible for the assistant's treatment should anything go wrong, and secondly, the method of payment has to be worked out between the two parties as all funds are directed to the principal.

Cash Payments

Prior to January, 1976, a patient being treated under the Health system was required to pay a maximum of \$20.00 cash if the treatment cost more than \$40.00. For any figure below \$40.00 the patient's cash payment was adjusted accordingly. It is fortunate and in many cases necessary that there is a small amount of cash flowing into the practice, for a practitioner might have to wait up to three months or longer for the Health Authorities to pay the major portion of the patient's fee. Bank managers are kind and generous people when it comes to lending money at high interest rates. However, the government sees nothing wrong in holding onto earned income for long periods without adding interest to it.

(The cost of living is quite comparable between Britain and America, the biggest problem being inflation. Last year it was 25% and in May of this year it has been reported to be down to 16%. Essential foods such as milk, bread, butter and cheese are nearly one-third cheaper whilst other foods compare in price. The smallest

car costs approximately \$2,300. State-owned housing is heavily subsidized in many urban areas but to buy a house in the major cities is very expensive. On foreign exchange markets the pound sterling has dropped approximately 45% since 1971. This, added to heavy taxation, has left few British dentists able to afford such professional "extras" as overseas courses and conferences.)

Now that the pattern of payment has been established, a discussion of the fee structure seems appropriate.

Dentists who practice privately are restricted only by their conscience when it comes to charging fees. This private group forms a very small minority of the total number of practicing dentists (due to fee structure). Under the National Health Service all fees are set according to a statutory scale which is revised annually by a Review Body.

An examination and two radiographs carries a fee of \$3.00 and the same fee is allowed for oral hygiene instruction with a prophylaxis. Fees for amalgam restorations vary from \$2.50 to \$5.50 depending on the class, and an added bonus of \$1.40 is given for any number of pins inserted, regardless of the type. An endodontic procedure costs \$13.00, whether on a molar or incisor; this fee is supposed to cover several visits. For porcelain jacket and porcelain bonded crowns the fees are \$38.00 and \$65.00, respectively. The dentist is allowed to make two porcelain jacket crowns in the anterior areas without prior permission from the Health Authorities if the patient is over sixteen years of age. The fee for a complete set of upper and lower dentures is 50.00. Porcelain bonded crowns, chrome partial dentures, and surgery involving root tips, cysts and impacted teeth need prior approval. The body from which prior approval is obtained is the Dental Estimates Board; these are the people who "pay the piper and therefore call the tune." This is also the place where problems develop.

If more elaborate work is desired for the patient (for example, in the field of periodontics) permission is required to take more than six radiographs. Special forms are available to write a brief diagnosis of the case and to make application for these. At this stage you can apply for what is called "prolonged gum treatment." Basically all this means is that you want to do root planing over two or more visits, and the fee is \$14.00. Usually this treatment is allowed without much of a problem. However, in some instances the Board will require that the patient be examined by one of their Regional Dental Officers. His/her word is often final although there is leave to appeal if their treatment plan does not agree with yours. Until the Dental Officer examines the patient (this may take several weeks), no further treatment may be carried out.

Delay Likely

The situation exists, then, that the patient may have signed on for treatment five to six weeks before this examination stage is reached, and the dentist may not have received the patient's portion of the fee during all this time, as legally speaking he/she is entitled to withhold payment until the treatment is completed. If the diagnosis and treatment plan are approved, it is possible to proceed. When the patient's treatment is completed, he/she signs the form as completed and the form is then written up and sent in for payment, which can be expected three months later.

If surgery is required (e.g. periodontal surgery) new forms have to be filled out and sent in. Thus more time is spent waiting for the Board to make up its mind and the Dental Officer may be called in again. The dentist waits for the outcome and if he loses the case, he can appeal yet again to the Dental Estimates Board. This appeal is usually refused but the letter will suggest that an appeal to a higher authority can be made within 30 days, this authority being the Minister of Health. In my experience under the Health Service

two of my cases went that far. However, I declined to pursue the matter further as I was already out of pocket by quite a substantial sum from the time spent signing forms, the length of time the patient was under treatment, and the totally inadequate fees.

On my few successful applications for surgery, the total fee approved for full mouth initial therapy and flap surgery was \$120.00. I waited nearly six months to receive this fee.

If Plan Is Refused . . .

What happens to the patient who has his/her treatment plan refused? Well, the dentist can explain the problems in the best way possible and suggest that the only way to have the work done is outside the Health Service, that is, privately. In this situation the patient signs a form discharging himself/herself from further National Health treatment at that time. Unfortunately this involves more paperwork with the added problem that no private insurance company provides facilities for the patient to obtain financial help. There have been attempts to set up schemes with a "Smile now pay later" plan, but these have had limited success. Recently, one of the major banks has allowed its charge card holders limited credit for dental work, and it is hoped that this will open the field to a more successful and less meddlesome dental health care system for those who want it.

However, there are ominous signs of Big Brother on the horizon. Orwell's 1984 is less than ten years away but at the rate that new bills are being passed in Parliament it may occur sooner. A new proposal called the Consultative Document, if passed in the House of Commons, attacks all aspects of private health care. One of its paragraphs states that Health Authorities will "require" all private establishments to hold a license granted by the Secretary of State. The granting of the license will be subject to national, regional, that the license could be withheld if it were

deemed that the Private Section was and local considerations. It would appear operating a better service or was in competition with the National Health practices.

Future Possibilities

Therefore, a state monopoly would exist in dental care which would mean that patients could get only the treatment that the State felt itself able to afford. The State then would put a value on the work done by the dentist regardless of whether he/she is a specialist or not. One could conceive of a situation in which a dentist wishing to leave the National Health Service to go into private practice could lose his/her freedom to conduct a private practice.

Already in other fields of work this sad fact is evident. Under the 1971 Industrial Relations Act a worker did not have to join a union at his/her work base. However, this law is now going to be stripped off the Statute Books so that a person who does not wish to join a union will have no alternative but to do so.

A recent case concerns two women employed in a small printing firm. They continued to resist all pressure to join the union until the company, which had backed them all the way, sacked them because of a threatened shutdown by the unionists. The Industrial Tribunal set up by the government adopted an aggressive attitude in their case and others like it, and would not grant the women the right to work without joining the union. It's strange, but recently the Labour Party (presently in power) proposed a new "Charter of Human Rights." Is this just another form of double-think and double-talk (1984 double-speak)??

Paying the Price

The once-abused Socialists have done some good things, but it is they who now abuse, who are not content to allow a mixed economy, and it is they who have

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Periapical Cemental Dysplasia (Cementoma): A Case Report

E. Byrd Barr, Assistant Professor of Oral Diagnosis/Oral Medicine

Periapical cemental dysplasia, more commonly known as cementoma, is found predominantly in black females from the second decade of life and beyond. Over the years, a number of other names (periapical cemental dysplasia, periapical osteofibroma or osteofibrosis, cementifying fibroma, localized fibro-osteoma, cemento-blastoma, periapical fibrous dysplasia) have also been proposed for this lesion. Currently, periapical cemental dysplasia is considered the most acceptable term and serves to distinguish this lesion from related conditions such as the benign cemento-blastoma ("true" cementoma), central cementifying fibroma and the gigantiform cementoma (familial multiple cementomas). In this paper, a case of the more commonly encountered periapical cemental dysplasia is described to call attention to classical clinical and radiographic features of this interesting lesion and its differential diagnosis.¹

Since the lesions of periapical cemental dysplasia are asymptomatic, they are usually discovered only by radiographic examination. Rarely are they observed in the maxilla; the mandibular incisor and bicuspid areas, in and near the periodontal membrane, are the most common sites. The lesions are found around the apices of these teeth and are usually multiple but may occur singly.

Periapical cemental dysplasia, or cementoma, may undergo three rather distinctive stages of development that can be observed radiographically:

Stage one is characterized by the localized destruction of bone which is replaced by connective tissue. The area appears radiolucent on the radiograph and is called the osteolytic stage. At this time the lesion can be confused with a periapical granu-

loma or cyst associated with trauma or pulpal death from infection. A review of past history and pulp testing are necessary for a differential diagnosis.¹

The second stage of development is known as the cementoblastic stage. Beginning calcification is observed in the radiolucent areas due to increased cementoblastic activity. The stimulus for this occurrence is unknown.¹

The last stage of the lesion shows excessive calcification in the affected area that is usually bordered by a thin radiolucent band. Due to the similarity in radiographic appearance, this mature stage of the cementoma is often confused with condensing osteitis (thought to be a periapical response to bone caused by low-grade pulpal infection).¹

The etiology of periapical cemental dysplasia is unknown, although mild chronic trauma (i.e. occlusal stresses) is suspected by some investigators.¹ Others believe that the lesion arises from elements in the periodontal ligament since osteoblasts and other cells capable of forming cementum, alveolar bone and fibrous tissue arise within it.²

When a diagnosis of cementoma is made, the lesion can be followed by periodic radiographs. On rare occasions the lesion may expand the cortical plate of bone and become infected through ulceration of the overlying mucosa. Surgical removal and biopsy are then indicated.² Once again, cementomas should not be confused with concurrent pathological conditions of the pulp or granulomas.

A CASE REPORT

On June 7, 1976, a 60-year-old black female was seen in the Oral Diagnosis Clinic for a routine examination. Her

medical history was complex but she was under medical treatment and responding well. Her major medical problems included angina pectoris, hypertension, arthritis of the spine, a past history of rheumatic fever and allergies to aspirin and penicillin.

Full mouth radiographs showed multiple radiopaque lesions surrounded by radiolucent bands at the apices of the mandibular incisors and canine teeth (Figures 1, 2,

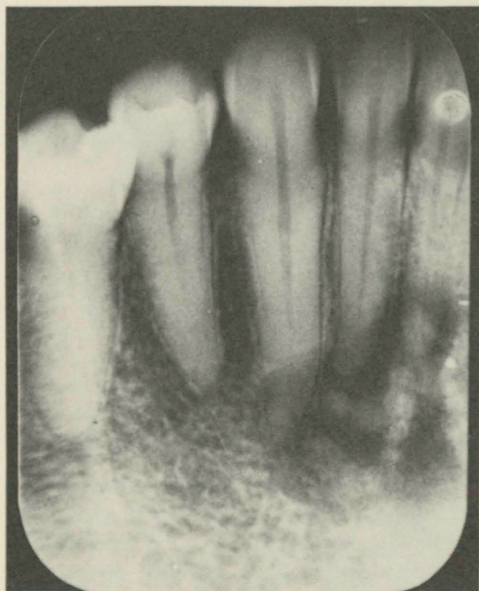


FIG. 1. Mandibular right canine area

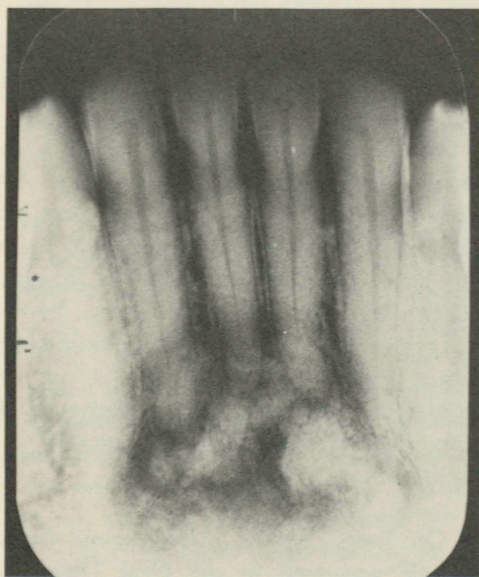


FIG. 2. Mandibular incisor area

3). The patient could not recall any previous trauma in this area and the color of the teeth was normal. Pulp tests were carried out on the six lower anterior teeth and all were found to be vital. The patient was completely asymptomatic. With the above findings a diagnosis of periapical cemental dysplasia, mature stage, was made.

No treatment is indicated at present but the patient will be recalled in one year for re-examination of the area, plus tests, and new radiographs.

In summary, the value of full mouth radiographs is demonstrated. The three stages of development of the cementoma have been discussed, as well as its predilection for black females in the mandibular anterior regions. When the clinician can make a diagnosis with relative certainty the patient will be spared an unnecessary operation for biopsy with resulting bone and tooth loss.

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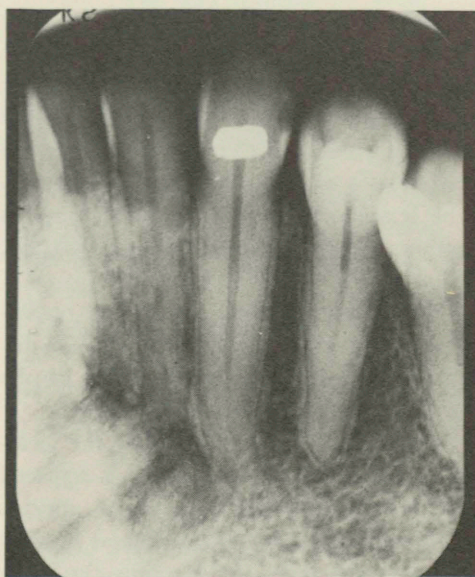


FIG. 3. Mandibular left canine area

Dr. and Mrs. Yoder Visit IUSD On Vacation From African Service

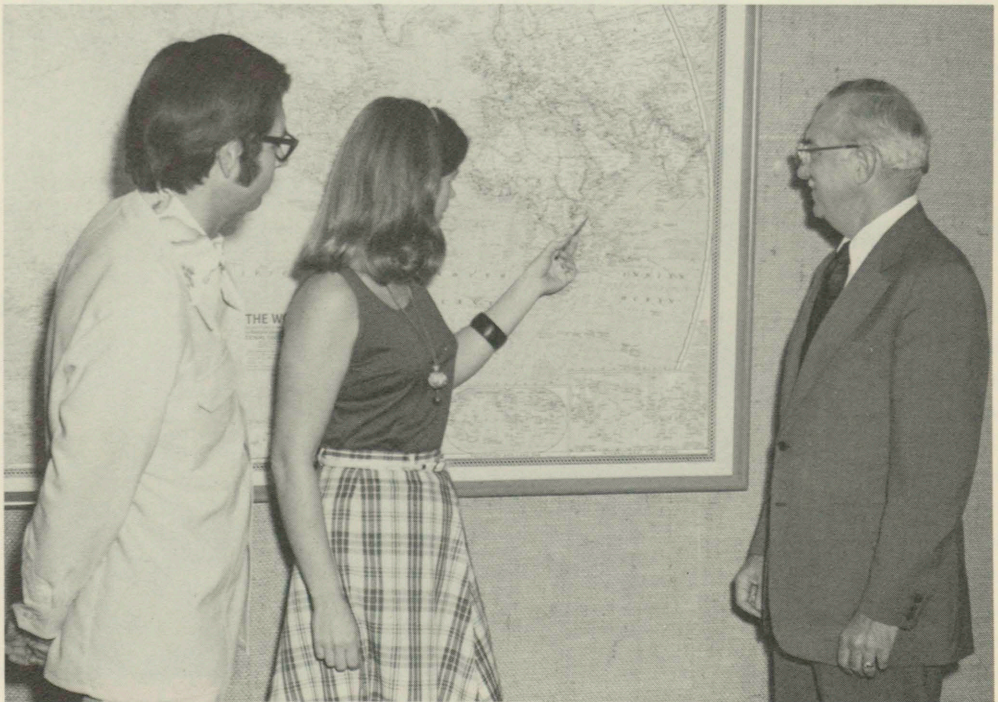
*Ralph G. Schimmele, Assistant Dean for Program
Development and Extramural Programs*

Dean Ralph E. McDonald recently welcomed two visiting dental school alumni who have spent the past three years as volunteers providing dental services to the needy of Moshi, Tanzania, East Africa, and surrounding area. Dr. Keith Yoder (D.D.S. 1963) and Karen Musbaum Yoder (R.D.H. 1962-B.S. 1963) returned to Indiana on a six-week holiday last summer to visit relatives and friends.

Keith and Karen planned the vacation to coincide with the national Bicentennial Celebration so that their four children (David, John, Benji and Sarah) would have an opportunity to completely review their national heritage in a very glorious manner before returning to East Africa for an additional two-year stay.

Keith and Karen have been very busy during the first three years of their African adventure. As reported to you earlier, Keith served for two and a half years as "the" Dental Officer for the Kilimanjaro Christian Medical Center but is presently the Senior Dental Officer at the hospital, having been joined by a German dentist in January, 1976. Now that Keith has a new dental colleague, his duties have been broadened to include coordination of the hospital's Flying Doctors Service which provides emergency care to dispensaries in the "bush."

Keith has also been invited by the Tanzania Ministry of Health to play a key role in developing a national program to train dental auxiliaries and assistant dental



Mrs. Karen Yoder points to the location of Mt. Kilimanjaro as her husband, Dr. Keith Yoder, and Dean Ralph E. McDonald look on in Dean McDonald's office.

officers to staff regional dental clinics which will render only very basic and emergency types of dental treatment.

In his new assignment Keith will also represent dentistry to the Ministry of Health in new medical education programs and will be responsible for the dental education which medical students receive. This will include preparing and presenting course material.

A significant factor in making the proposed dental programs possible was the contribution of used equipment to the Kilimanjaro Christian Medical Center, where pilot versions of both programs will be conducted, by the Indiana University School of Dentistry and Dr. Paul Sheets of Kendallville, Indiana.

Karen's program of dental health education for school-age children, which she has supervised for the past three years, has been temporarily halted due to lack of funds. With the energy, motivation, and sincere interest in helping people that

Karen has always exhibited, we are certain that a new program will soon be established or that the current financial difficulties of the first program will be resolved.

The Yoders also reported that after two unsuccessful attempts to climb Mt. Kilimanjaro, they succeeded in their third try and now are bona-fide members of that

(Continued on Page 98)



Dr. Keith Yoder relaxes as he waits to board the airplane used by the Flying Doctors Service in providing emergency care to remote parts of the Mt. Kilimanjaro region.



Dean Ralph E. McDonald displays ceremonial African face mask presented to him by Dr. and Mrs. Keith Yoder (left). Dr. Ralph G. Schimmele, who wrote the accompanying article, is at Dean McDonald's right.

Notes from the Dean's Desk . . .

Ralph E. McDonald

As the result of careful and thoughtful planning on the part of the faculty and the various committees, the new school year, which began on August 23, is off to a good start. Four new classes of students including first year dental students, first year dental hygiene students, first year post-doctoral students, and dental assisting students reported for registration to embark on their course of study.

A few statistics on the entering dental class may be interesting to our alumni. The following is an excerpt from Dean Bogan's report to the faculty on the matter of student admissions.

The admissions committee again selected a class of 129 outstanding young people who, by all criteria available to us show promise of being the best prepared group of students we have ever enrolled. Their selection represents over 1,000 hours of work by the committee members chosen by the Faculty Council. From the 644 valid applicants, 334 of whom were residents of Indiana, the committee selected 108 men and 21 women for this year's class. Five of the students are non-residents, representing the states of Alabama, Hawaii, Missouri, Nevada, and Texas. Academically, only 10 percent of the entering students have less than four years pre-dental education and many have post-baccalaureate training including eight with Master's degrees and one with a Ph.D. degree. The average student completed 212 credit hours and is 23 years old. The overall grade point average is 3.35 (A=4.0). The students were selected from 33 different undergraduate colleges in addition to Indiana University and its regional campuses and represent 38 counties dispersed rather evenly in the state of Indiana.

Miss Evelyn Oldsen, Director of Dental Hygiene, has reported that 40 students were selected from 146 candidates interviewed for the dental hygiene program in Indianapolis. The grade point average was

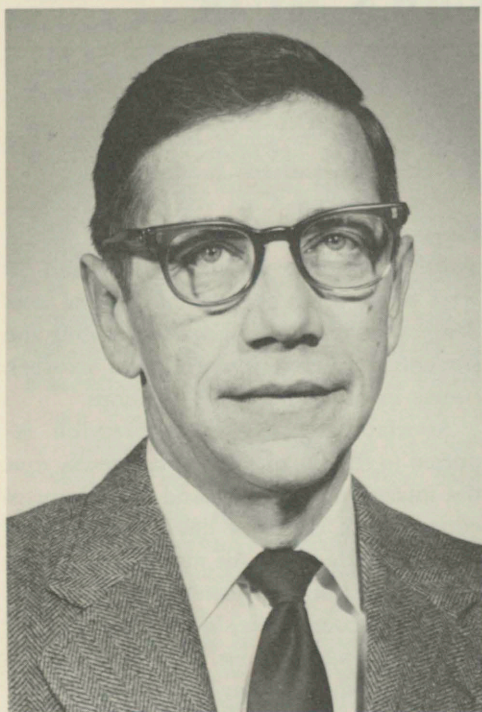
3.4 and all of the young ladies selected for the class are Indiana residents.

Mrs. Marjory Carr has reported that there were 46 applicants for the dental assisting program in Indianapolis and 30 were selected. At the end of the one academic year program in dental assisting the students may elect to enroll in a six-week course in expanded duty functions.

Associate Dean S. Miles Standish reported to the Faculty Council recently that the interest and the demand for advanced education in dentistry have continued to increase each year. An attempt has been made to maintain essentially the same overall graduate class size so, from the 265 completed applications 37 new students were selected, of whom 11 came to us from foreign countries. As of July 1, 22 advanced degrees had been awarded for the year and an additional nine students were successful in completing their thesis defense. Approximately 25 certificates were presented during the year to students who completed a 2 or 3 year post-doctoral program.

ADMINISTRATIVE CHANGES AND NEW FACULTY APPOINTMENTS

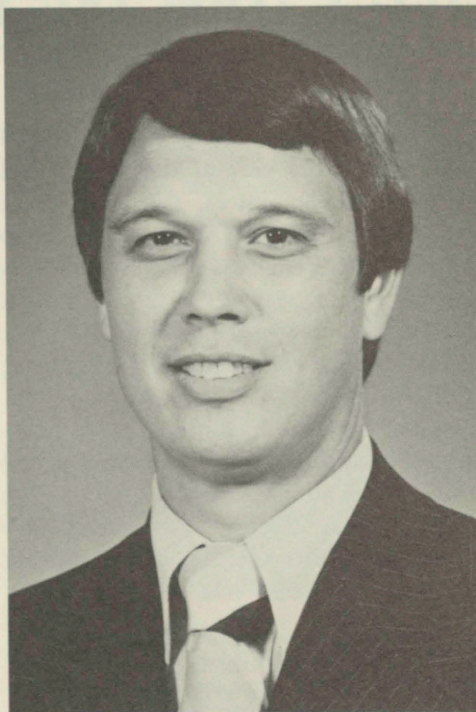
Dr. S. Miles Standish has accepted the Chairmanship of Oral Diagnosis/Oral Medicine, effective July 1, 1976, replacing Dr. David M. Dickey who served as the Acting Chairman following the untimely death of Dr. David F. Mitchell in 1975. A 1945 graduate of Indiana University School of Dentistry, Dr. Standish also holds a Master's degree from Indiana. He has been a faculty member since 1952 and prior to his recent appointment served as Professor and Chairman, Division of Clinical Oral Pathology. He will also continue as Associate Dean for Graduate



Dr. S. Miles Standish

and Post Graduate Education. Dr. Standish is a Diplomat of the American Board of Oral Pathology and a former President of the Academy. He is co-author of two textbooks and has written numerous articles and chapters in other texts.

Effective July 15, 1976, Dr. Paul E. Starkey requested that he be permitted to relinquish the chairmanship of the Department of Pedodontics in order that he may devote the greater portion of his time to teaching, the development of audiovisual aids, clinical research, and writing. Dr. Starkey has provided the Department of Pedodontics with excellent leadership for 7 years, having been named the Chairman of the Department in 1969 and prior to that time had been a full-time member of the faculty for 10 years. During those years, Dr. Starkey either initiated or provided the impetus for several important programs for the School; to name a few, the expanded audiovisual facility, dental auxiliary education, the annual teaching



Dr. David R. Avery

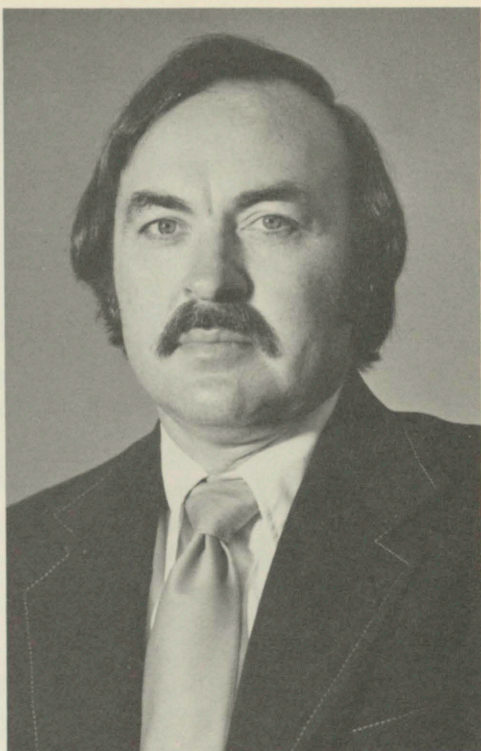
conference, and the revised undergraduate curriculum. Among the many honors that have come to Dr. Starkey during his career at I.U.S.D. are Teacher of the Year Award in 1963, the Indiana University Frederick Bachman Lieber All-University Teaching Award in 1963, and another award from the Dayton Dental Society for an outstanding contribution to dentistry. In 1970 he received the Centennial Medal from Ohio State University. We wish Dr. Starkey well as he continues to influence our dental school programs and has more time for the pursuit of his greatest interest.

After a painstaking review of the achievement of several excellent candidates, a search and screen committee for the chairmanship of pedodontics recommended the naming of Dr. David R. Avery as the new chairman. Dr. Avery's appointment became effective July 15, 1976. Dr. Avery is not a newcomer to Indiana University School of Dentistry. He has been affiliated with the Dental School either in

the capacity of a student or a faculty member since 1962, with two years out during his active duty with the Navy Dental Corps. Dr. Avery earned his dental degree in 1966 and the M.S.D. degree in Pedodontics in 1971. As a graduate student he was named recipient of the American Academy of Pedodontics Research Award. In 1970 Dr. Avery was named Assistant Professor and Acting Chairman of the Division of Undergraduate Pedodontics and was appointed Chairman of the Division in 1971. Dave has been active in several professional societies and is currently serving as President of Theta Chapter of Omicron Kappa Upsilon. He also is Chairman-elect of the Council of Faculties of the American Association of Dental Schools. In his new capacity Dr. Avery will have the administrative responsibility for all undergraduate and graduate pedodontic programs.

There are two full-time appointments in the Oral Surgery Department. Dr. Larry L. Graham has been named Associate Professor of Oral Surgery and Director of the Wishard Memorial Hospital and Regenstrief Health Center Oral Surgery Program. Dr. Graham's appointment, effective August 1, 1976, follows several years of service as a part-time member of the faculty in oral surgery. Dr. Graham is a 1965 graduate of the Dental School and after service in the United States Army Dental Corps he returned to this campus to complete an internship residency program in 1970. He holds hospital appointments at the Indiana University Hospitals and, in addition, appointments at Methodist Hospital and St. Francis Hospital.

Dr. Clarence E. Deane, Jr. has accepted appointment as an Associate Professor of Oral Surgery effective September 1, 1976. Dr. Deane is a graduate of the Dental School of the Medical College of Virginia. He pursued an Oral Surgery Advanced Education Program at several centers including Letterman General Hospital in



Dr. Larry L. Graham

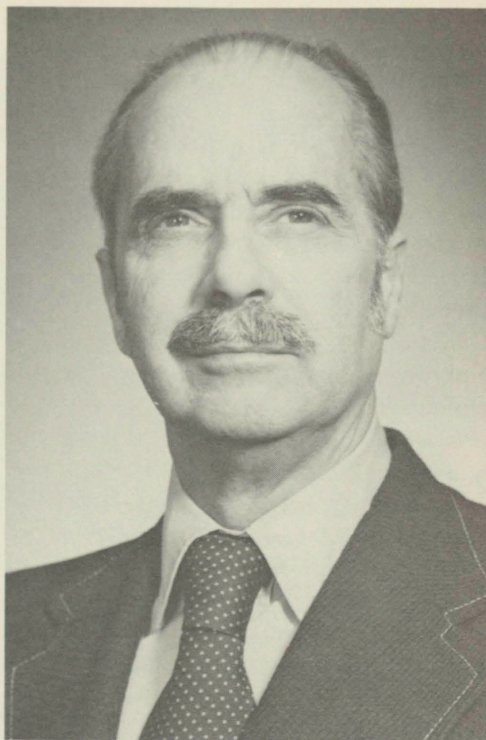


Dr. Clarence E. Deane, Jr.

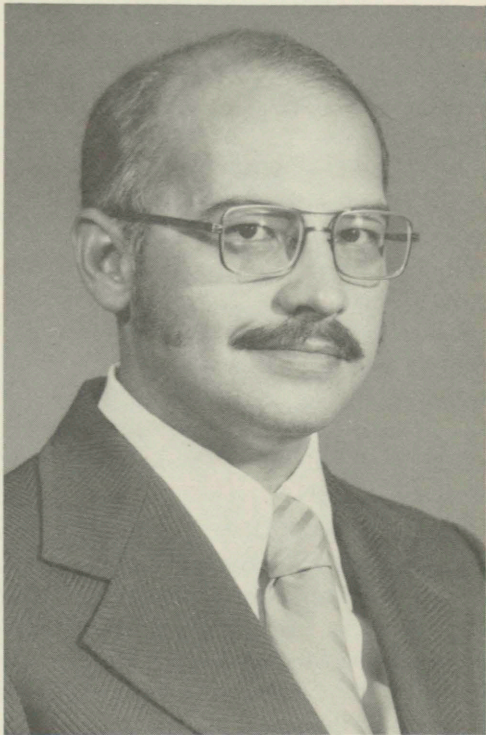
San Francisco, the United States Army Institute of Dental Research and at Georgetown University. Dr. Deane has served in the Army Dental Corps since 1956 and currently holds the rank of Colonel. He is a Diplomate of the American Board of Oral Surgery and holds membership in the American Society of Oral Surgeons and the International Association of Oral Surgeons. The appointments of Dr. Deane and Dr. Graham will strengthen greatly the offering of undergraduate education in the Department of Oral Surgery.

Dr. Frank N. Ellis, Assistant Director of the TEAM (Training in Expanded Auxiliary Management) Program at Indiana University School of Dentistry for the past two years, has been appointed Director of the Dental Auxiliary Education Program at the South Bend campus of Indiana University. Dr. Ellis will succeed Dr. Alfred Fromm who has returned to full-time private practice. Dr. Ellis will direct a faculty of five full-time members and a number of part-time teachers. The South Bend program enrolls approximately 70 dental hygiene and dental assisting students. Prior to joining the faculty of Indiana University Dr. Ellis served as a Navy Captain, headed the Navy Dental Technicians School at San Diego, California, and later was Executive Officer of the Navy's Graduate Dental School at Bethesda, Maryland. Dr. Ellis' previous administrative experience and his role in the program at the School of Dentistry prepared him well for his new and challenging assignment as Director of Dental Auxiliary Education at I.U. South Bend.

Mr. Harold A. Shaffer has accepted appointment as Technical Services Librarian for the School of Dentistry, effective September 16, 1976. Mr. Shaffer will replace Mrs. Evelyn Allen who is retiring. He holds three degrees from Indiana University including the baccalaureate, Master of Arts in Teaching and the Master of



Dr. Frank N. Ellis



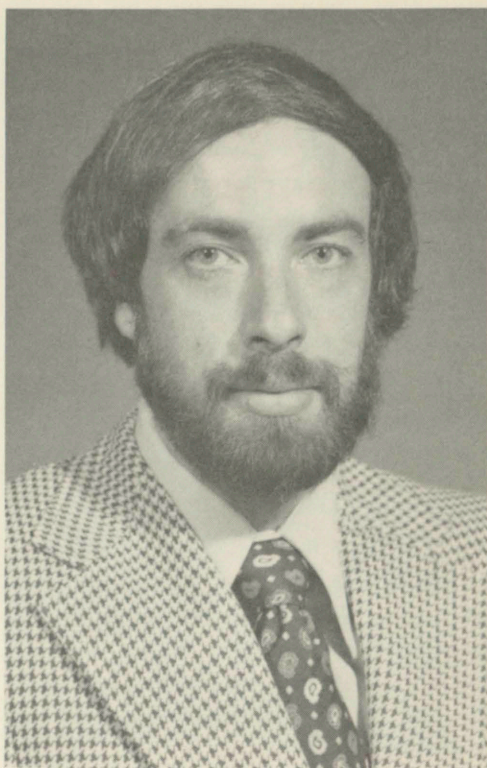
Mr. Harold A. Shaffer

Library Science. Mr. Shaffer comes to us with impressive experience, having served as librarian at the I.U.P.U.I. Blake Street Library since November, 1972 and prior to that he had been a cataloguer at the Library of Congress. In addition, Mr. Shaffer taught Russian at I.U.P.U.I. from 1966 to 1972. Earlier he had been a teacher at the Noblesville, Indiana, High School.

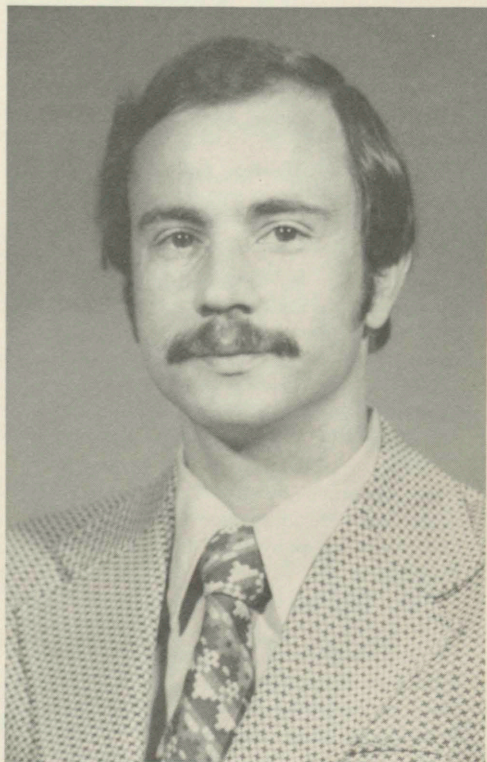
Dr. Richard J. Wills has accepted appointment as Assistant Professor of Periodontics, effective September 1, 1976. Dr. Wills, who earned the D.D.S. degree from Ohio State University in 1972, has been teaching as a Graduate Assistant in the Department of Periodontics at the University while completing the M.S. program. The degree will be conferred in September, 1976. Prior to his graduate program, Dr. Wills spent two years in the U.S. Navy, achieving the rank of Lieutenant.

Dr. Larry D. Ryan has been appointed as an Assistant Professor and Assistant TEAM Director effective August 1, 1976. Dr. Ryan earned his dental degree from Indiana University in 1965 and served as a Captain in the United States Air Force Dental Corps. In recent years he has practiced in Camby, Indiana. Dr. Ryan will assume the duties of Dr. Frank Ellis, who has been appointed Director of the Dental Auxiliary Program at I.U. South Bend.

Dr. K.K. Park has accepted appointment as an Instructor in Preventive Dentistry and will serve at the Oral Health Research Institute. Dr. Park has worked as a research associate in the Institute since 1969. He earned his dental degree from Seoul National University in 1962. He also holds the Master's and Ph.D. degrees. From 1964 to 1967 Dr. Park served as a military dental surgeon in the Republic of Korea Army. He has played an important role in the research program at OHRI and we are confident that he will make an excellent contribution to the teaching program, particularly in the graduate area.



Dr. Richard J. Wills



Dr. Larry D. Ryan

Miss Patricia K. Leitsch has been appointed as Assistant Professor of Dental Hygiene effective August 1, 1976. She earned her certificate in Dental Hygiene at the University of Louisville in 1961, her baccalaureate degree in 1971, and a Master's degree in Education from Temple University in 1976. Prior to going to Temple University, Miss Leitsch worked at the Louisville Veterans Administration Hospital for more than 6 years.

Mrs. Jeanne F. Dray has accepted appointment as Assistant Professor of Dental Hygiene effective August 1, 1976. Mrs. Dray holds the B.S. degree in Dental Hygiene from the University of Missouri, Kansas City, and a Master's degree in nutrition from Kansas State University. Mrs. Dray served as a graduate teaching assistant during the time she was working for her Master's degree. Prior to that time she was in private practice as a dental hygienist.

Several recent appointments have been made to the TEAM Program and to the Department of Pedodontics. They include:

Miss Jill Patrice Alexander, Lecturer in the TEAM Program, effective August 23, 1976. Miss Alexander completed her work for the Associate Degree in Dental Hygiene at I.U.S.D. in May, 1975 and since that time has been in private practice in Indianapolis as a dental hygienist.

Mrs. Debra K. Evitts, Lecturer in the TEAM Program, effective May 17, 1976. A graduate of the Wood High School Dental Assistant Program (1972), she was employed at the Riley Dental Clinic from 1972 to 1973, when she left to follow her husband in his military service. From 1973 to 1974, she was a dental assistant in private practice, returning to Riley Dental Clinic in 1975, where she has worked until her recent appointment to the TEAM Program.

Mrs. Beverly Frey, Instructor in the TEAM Program, effective March 8, 1976. She is a graduate of the Wood High School Dental Assistant Program (1972) and has been an employee in the Department of Pedodontics since that time.

Mrs. Deborah Jane Hayes, Lecturer in

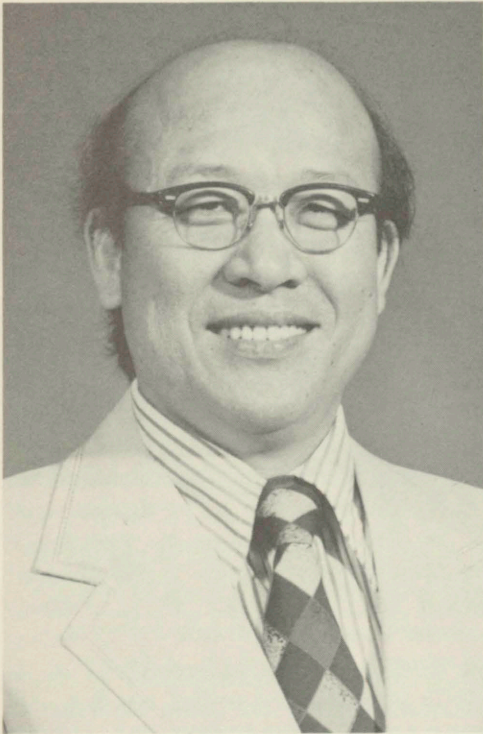
the TEAM Program, effective August 23, 1976. She was awarded the Associate Degree in Dental Hygiene at Indiana University-Fort Wayne in 1976.

Miss Sally Phillips, Instructor in the TEAM Program, effective November 1, 1975. Miss Phillips, who completed the Dental Assisting Program at Indiana University School of Dentistry in 1974, had been working at the Riley Hospital Dental Clinic and in the office of Dr. J. Gunnar Richardson as a dental assistant.

Ms. Jeri L. Gruner, Research Associate in the Department of Pedodontics, effective July 1, 1976. A graduate of our Dental Assisting Program (1976), she has been affiliated with I.U.S.D. since 1971, at which time she was employed as a dental assistant. She was promoted to the rank of Faculty Assistant in 1974. Prior to her employment at the Dental School she had worked in private practice as a dental assistant.

Dr. Jeannie M. Vickery has been appointed as an Instructor in the Fixed and Removable Partial Prosthodontics Department, effective August 25, 1976. She is a 1976 graduate of Indiana University School of Dentistry.

Mrs. Evelyn Allen, Assistant Librarian at the School of Dentistry for many years, announced her retirement effective September 1, 1976. Mrs. Allen held the A.B. degree and M.L.S. degree from Indiana University. She received her first academic appointment more than 10 years ago. Mrs. Allen has been active in the Indiana Library Association and the American Association of University Women, in which she served terms as secretary, publicity director, and vice president. Prior to coming to Indiana University School of Dentistry, Mrs. Allen spent 9 years in South America; 7 years in Maracaibo and 2 years in Caracas. She also taught history at Waldron, Indiana. We wish Mrs. Allen many years of good health in her retirement. She has helped countless numbers of young men and women during their dental education and I am certain they join me in congratulating her on her achievement.



Dr. K. K. Park



Miss Patricia K. Leitsch



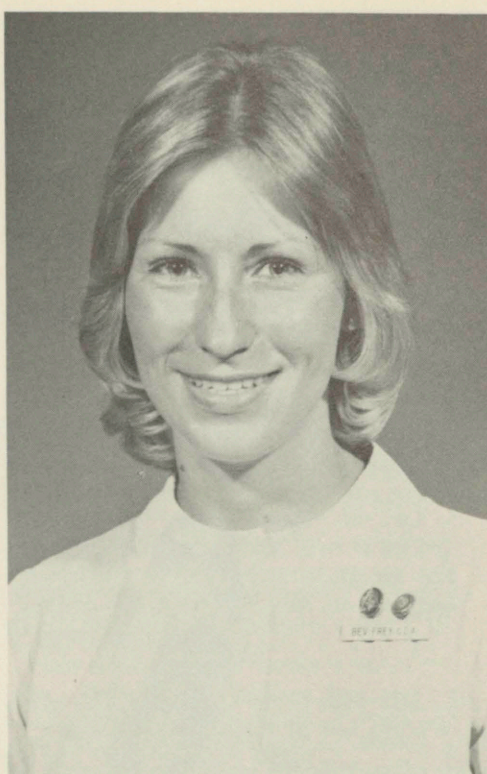
Mrs. Jeanne F. Dray



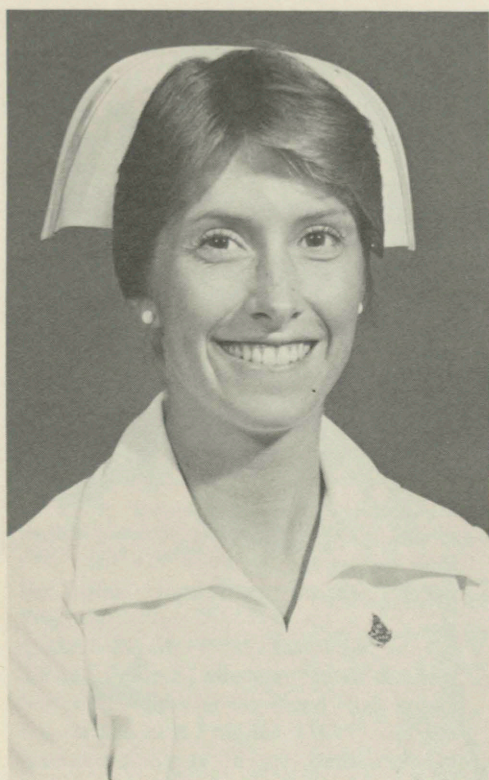
Miss Jill Alexander



Mrs. Debra Evitts



Mrs. Beverly Frey



Mrs. Deborah Hayes



Miss Sally Phillips

FACULTY MEMBER HONORED

For the second time in less than 10 years a member of the Dental School faculty has received one of the prestigious all-university Distinguished Teaching Awards. In 1968 Dr. Paul Starkey received the Frederick Bachman Lieber Award. At the Founder's Day ceremonies on April 1, 1976, Dr. James R. Roche was the recipient of the Amoco Foundation sponsored Distinguished Teaching Award. Dr. Roche was among seven Indiana University professors and five associate instructors to receive certificates and cash awards for distinguished teaching. The purpose of these awards is to call attention to the importance of teaching as well as to recognize those who have demonstrated excellence. For many years Dr. Roche served as a part-time member of the faculty in pedodontics and in 1968 he accepted the full-time teaching appointment as principal teacher in the post-doctoral pedodontic program. Even though Dr. Roche carried on a heavy teaching and administrative load he found time to chair the Teaching Committee of the School of Dentistry and to preside at five highly successful annual teaching conferences. One of Dr. Roche's colleagues recently said, "His unique innovative teaching methodology enhances the learning experience."

By example and precept Dr. Roche demonstrates that teaching is not a hit or miss effort but an art and a science involving properly stated behavioral objectives and methods of evaluation which are dependable measures of the learning process. A dental educator who is a former student of Dr. Roche has said of him, "I follow his example by always trying to say something good about a student's work. I chuckle to myself at times when I hear myself using his favorite phrases, like 'I'm interested, and how can I help you?' " Another former student has said of him, "He was always keen on learning by discovery and what often made the



Ms. Jeri L. Gruner



Dr. Jeannie M. Vickery



Mrs. Evelyn Allen

learning experience so meaningful was the multitude of probing questions which led us, the students, to deduce the correct approach." The citation accompanying the Distinguished Teaching Award includes this statement: "Dr. James R. Roche is not just a good teacher, he is a distinguished educator with exceedingly high standards and his methods of teaching cause the students to emulate him. His impact is felt throughout the profession, both in practice and in education."

GIFTS TO THE SCHOOL OF DENTISTRY

The 1975 School of Dentistry Fund Drive, directed by Drexell A. Boyd and Mr. Richard C. Searles of the Indiana University Foundation resulted in 632 individual gifts in the amount of \$59,312.78. This past year was a record one in terms of money received. Also the number of Century Club members increased to 322. In addition to major portions of the money designated for loans

and scholarships, a significant unrestricted amount will be used for new furnishings for the expanded and renovated dental school library. Approximately \$8,000 will be used for a new Instron immersed testing instrument for the Dental Materials Department. Alumni gift money, plus matching amounts from the general equipment fund of the University and the research committee, will allow the purchase of the new testing instrument. As Dean Phillips has indicated, it is essential to maintain a laboratory with modern devices so we can attract new research grants and conduct sophisticated research that will benefit all members of the profession.

Mrs. Dale Shumate will assist Dr. Boyd in the 1976 fund drive. Mr. Searles, who worked so efficiently for several years, has accepted appointment with an investment company in Indianapolis. Mrs. Shumate will join the Foundation office staff in Indianapolis and will be readily available to assist alumni and friends who wish to make gifts to the School of Dentistry.

Dr. Robert Kleiner, a 1976 graduate of the School of Dentistry, represented the Alpha Omega Foundation and presented a beautiful illuminated globe to Mrs. Campbell and Dr. McDonald. The globe, which will be placed in the library, signifies the appreciation of the members of Alpha Omega for the opportunity to study dentistry at I.U.S.D. The students, faculty, and staff appreciate this thoughtful gesture.

During the week of May 24, the School of Dentistry hosted a group of 16 Japanese dentists. The visitors to the campus attended a postgraduate course on fixed and removable partial prosthodontics. The visitors came to Indiana primarily because Dr. Ray K. Maesaka generated interest among members of this study group during his lecture tour in Japan last year. The study group presented 20 Kwanzan Japanese flowering cherry trees to the

(Continued on Page 96)



Dr. Paul E. Starkey—more time for teaching and research

Continued Education Courses Listed

Robert H. Derry, Director of Continuing Education

The principal objective of the Department of Continuing Education at Indiana University School of Dentistry is to present a series of short postgraduate courses which will give the practicing dentist an opportunity to expand his knowledge of dentistry and to keep abreast of current methods and concepts in his field. The fundamental operating philosophy of the Department is the idea that reaching the dentist through educational programs will exert a direct and positive influence upon the quality of dentistry being performed in the profession today. The dentist's participation in our courses, given under the expert instruction of concerned individuals who are expert in their specialties, ideally should motivate him to apply the knowledge he has gained to his own dental environment.

A widely diversified selection of programs is offered, with each course focusing on the needs and desires of the dentist and also encompassing the needs of the dental team as a whole. We are continually on the lookout for original ideas and innovative suggestions from the dental team that may prove instrumental in the creation of new course offerings in the continuing education series at the School of Dentistry.

A carefully developed and well organized continuing education program within a school is a pivotal point for maintaining a dental profession of the highest caliber. Each passing year has brought about an increase in encouragement and support for our program from the men and women of the dental profession. We are hopeful that the 1976-77 continuing education series will be another successful one. During the coming year we look forward to having many new participants who will combine their efforts with those who have

been active in the past to form a fresh and exciting approach to the program.

- C.E. 118 January 12, 1977
OCCLUSION FOR THE GENERAL PRACTITIONER
Airport Hilton Inn—Indianapolis
Fee: \$60 (luncheon included)
Dr. Lowell D. Whitsett
- C.E. 119 January 22, 1977
CLINICAL PROGRAM FOR DENTAL LABORATORY TECHNICIANS
School of Dentistry—Indianapolis
Fee: \$15 (luncheon included)
Dr. John R. Risch
- C.E. 120 February 2, 1977
DENTAL MATERIALS FROM THE CLINICAL POINT OF VIEW
Howard Johnson's—Downtown Indianapolis
Fee: \$50 (luncheon included)
Dr. Wilmer B. Eames
- C.E. 121 February 6, 1977
CERAMO-METAL RESTORATIONS THE ULTIMATE ESTHETIC ACHIEVEMENT
School of Dentistry—Indianapolis
Fee: \$75 (luncheon included)
Dr. R. Sheldon Stein
- C.E. 122 February 9, 1977
MODERN CONCEPTS IN DENTAL MATERIALS IMPORTANT TO DENTAL ASSISTANTS
Howard Johnson's—Downtown Indianapolis
Fee: \$25 (luncheon included)
Dr. Ralph W. Phillips and Staff
- C.E. 123 February 12 & 13, 1977
ORTHODONTIC FAILURE: REANALYSIS, TREATMENT AND CORRECTION
Airport Hilton Inn—Indianapolis
Fee: \$250 (luncheons included)
Dr. J. William Adams
- C.E. 124 March 2, 1977
THE USE OF ELECTROSURGERY IN THE DENTAL PRACTICE
Howard Johnson's—Downtown Indianapolis
Fee: \$60 (luncheon included)
Dr. Joseph C. Morganeli
- C.E. 125 March 8-11, 1977
CLINICAL PEDODONTICS
School of Dentistry—Indianapolis
Fees: \$150 (luncheons included)
Dr. Paul E. Starkey and Staff

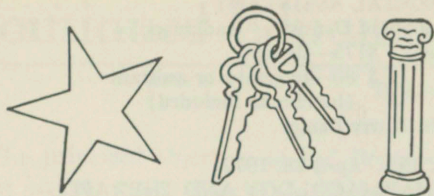
- C.E. 126 March 16, 1977
 PERIODONTAL-OCCLUSAL
 INTERACTIONS
 Howard Johnson's—Downtown
 Indianapolis
 Fee: \$75 (luncheon included)
 Dr. Sigurd P. Ramfjord
- C.E. 127 March 16-18, 1977
 SURGICAL ENDODONTICS
 School of Dentistry—Indianapolis
 Fee: \$250 (luncheons included)
 Dr. Samuel S. Patterson
 Dr. Harold Gerstein
- C.E. 128 March 26, 1977
 SEMI-PRECISION ATTACHMENTS
 School of Dentistry—Indianapolis
 Fee: \$25 (luncheon included)
 Dr. Donald M. Cunningham
 Mr. Calvin Linton, C.D.T.
- C.E. 129 March 30, 1977
 DENTAL PRACTICE IN THE 70's:
 A NEW LOOK
 Howard Johnson's—Downtown
 Indianapolis
 Fee: \$50 (luncheon included)
 Dr. H. William Gilmore
- C.E. 130 April 1 & 2, 1977
 A BASIC INTERPRETATION OF THE
 PANKEY-MANN-SCHUYLER
 PHILOSOPHY AND TECHNIQUE
 School of Dentistry—Indianapolis
 Fee: \$150 (luncheons included)
 Dr. John Chynoweth
 Dr. Robert Hinkle
 Dr. Donald Merker
 Dr. Richard Wills
 Dr. Walter Wright
- C.E. 131 April 13, 1977
 ORAL SURGERY FOR THE
 GENERAL PRACTITIONER
 Howard Johnson's—Downtown
 Indianapolis
 Fee: \$50 (luncheon included)
 Dr. James H. Dirlam
 Dr. Charles H. Redish
- C.E. 132 April 15 & 16, 1977
 MYOFUNCTIONAL THERAPY
 Airport Hilton Inn—Indianapolis
 Fee: \$250 (luncheons included)
 Mr. Daniel Garliner
- C.E. 133 April 18-22, 1977
 POSTGRADUATE COURSE IN
 MAXILLOFACIAL PROSTHETICS
 Airport Hilton Inn—Indianapolis
 Fee: \$200 (1 luncheon and 1 banquet
 included)
 Dr. Varoujan A. Chalian
- C.E. 134 April 21-23, 1977
 RELATIVE ANALGESIA FOR THE
 DENTIST, DENTAL HYGIENIST AND

DENTAL ASSISTANT
 School of Dentistry—Indianapolis
 Fee: \$175—dentist
 \$ 80—hygienist or assistant
 (luncheons included)
 Dr. Harry Langa

- C.E. 135 April 28, 1977
 PHARMACOLOGY AND THERAPEU-
 TICS FOR THE DENTIST AND
 AUXILIARIES
 South Bend Campus
 Fee: \$40 (luncheon included)
 Dr. Daniel C. Chin
- C.E. 136 May 4, 1977
 PERIODONTICS FOR TODAY AND
 TOMORROW
 Howard Johnson's—Downtown
 Indianapolis
 Fee: \$60 (luncheon included)
 Dr. William B. Gillette
 Dr. Niles M. Hansen
 Dr. Timothy J. O'Leary
- C.E. 137 May 5, 1977
 THE OVERDENTURE
 Evansville Campus
 Fee: \$50 (luncheon included)
 Dr. Malcolm E. Boone
- C.E. 138 June 6-9, 1977
 ADVANCED PERIODONTICS—A
 PARTICIPATION COURSE
 School of Dentistry—Indianapolis
 Fee: \$250 (luncheons included)
 Dr. Timothy J. O'Leary
- C.E. 139 June 15, 1977
 GERIATRIC DENTISTRY
 Howard Johnson's—Downtown
 Indianapolis
 Fee: \$50 (luncheon included)
 Dr. William Borman



Dr. Robert Kleiner presents the Alpha Omega
 Foundation gift to Mrs. Helen Campbell and
 Dean McDonald



Paul E. Starkey

AMERICAN DENTAL SOCIETY OF EUROPE HEARS GILMORE AND DOYLE LECTURE

This past July Dr. H. William Gilmore of Indianapolis and Dr. Walter A. Doyle of Lexington, Kentucky, both alumni of IUSD, presented scientific programs to the American Dental Society of Europe in Helsinki, Finland. While there they were special guests of alumni of Indiana University who are members of the Society.

Perhaps many of you are wondering what the American Dental Society of Europe is. It is a very old international association and I have been told that it is the second oldest—the Red Cross taking first honors. The American Dental Society of Europe was founded in a hotel on Mount Rigi in Switzerland on July 4, 1873, by five American dentists who practiced in that country.

Today's active members must be dentists who are graduates of recognized schools of dentistry in the United States or Canada and they must be residents of Europe.

When the A. D. S. of E. was formed, the Swedish and the Australian Dental Societies were probably the only European dental societies in existence, and the Danish Dental Association was formed later in the same year. More than 100 years ago, dentists were only beginning to attain professional status. It certainly was quite an achievement to found such a durable society of practitioners with non-European educational qualifications. That society has not only survived the tragedies of two wars which divided the countries in which the members practiced but has been successful enough to celebrate its

100th anniversary with the vigor of youth. The reason for this success lies chiefly in the history of the development of dentistry in the United States. An insight into this is provided by Dr. A. E. Rowlett in a history of the Federation Dentaire Internationale. He writes:

About the time of the American War of Independence, when Rochambeau and LaFayette were taking over French troops to help their allies, the American colonists, French surgeons introduced the dentistry of Pierre Fauchard into America, with the result that nearly half a century later, in 1840, two American dentists, Horace Hayden and Chapin Harris, founded the Baltimore College of Dental Surgery, obtained recognition of a degree D. D. S., and established a precedent giving the right of the



Photographed above (Standing) are: Dr. Walter Doyle, Lexington, Ky.; Dr. Martin Walshe, Dublin, Ireland; (Seated); Dr. Sverker Torekrog, Goteborg, Sweden; Dr. James Page, Tunbridge Wells, Kent, England; Dr. H. William Gilmore, Indianapolis, Indiana; and Dr. James Maloney, London, England.

title of Doctor to dental surgeons. At the same time by progressively raising the standards of the curriculum and examinations, America became supreme in the art of dentistry, which together with a doctorate recognized by a university of high repute saved the profession from domination by medicine and from the problems which arise from unqualified practice.

While all this was taking place here in the United States, dental schools were being established in Europe, usually in medical schools, and the qualifying examination of dental students was conducted largely under medical auspices.

The 19th century saw a great expansion of industry and because of the social changes involved, a demand for dental services became significant in Europe as well as in the United States. New American schools produced graduates who were eager to demonstrate the values of their knowledge and services in a European setting. The matter of international contributions to dentistry was not wholly one-sided, however. Dr. G. L. Leatherman said in his presidential address to the Society at Lausanne in 1957:

I think it is only fair to admit that the influence of orthodontists, the surgeon, and the basic scientist trained in Europe on dental education and practice in the United States and Canada has been quite marked.

The United States also led the way in the formation of dental organizations. Two State societies, North Carolina and Michigan, were founded in 1856 and a local society in St. Louis in the same year. A local society in Indiana was formed in 1858. It is not often that one goes from Europe to America to get a larger historical perspective but this is certainly true in the organization of the dental profession and the establishment of professional status for dentistry.

These, then, were the antecedents of the influx of American dentists into Europe. Motivated by desires we can only guess, dentists left the United States many years

before the American Dental Society of Europe was founded to practice on the continent from which their ancestors came. They brought with them the expertise of their training in the United States and modern technics. They quickly gained a superb reputation in Europe. Friendship between them was such that when patients moved from one country to another in Europe, they were referred to their colleagues of American origin and a "closed shop" was to some degree established. Some European practitioners, recognizing the prestige enjoyed by these dentists, went to the United States for further education and greatly benefited thereby, to the extent that the term "American dentist" began to have a special meaning of value. After a while this led to exploitation, with some organizations in the United States offering diplomas in return for fees for correspondence courses, often with no obligation on the part of the "student" to complete a course. Many an unqualified man exhibited a sign "American dentist," whether or not he had an acceptable diploma or connection in the United States. The American Dental Society of Europe strenuously fought this and was largely responsible for bringing pressure to bear in the United States to have such activities prohibited.

The American Dental Society of Europe has a tradition of practical interest in education: at first, monitoring the educational standards of persons practicing in Europe who claimed to be "American dentists" and attacking the evil of the sale by some American colleges of worthless diplomas; and years later, providing facilities for European graduates to take additional qualifications in America.

In 1961 Dr. George Teuscher, Dean of the Northwestern Dental School, asked the Society to accept a scholarship to that university for a degree course sponsored by the A. D. S. of E. This has been continued over the years. Later, in 1969, the American Society of Dentistry for Children

established a "Foreign Scholarship" and asked the American Dental Society of Europe to screen and select a candidate for its first scholar. Although the American Society of Dentistry for Children financed the scholarship, the contribution of the A. D. S. of E. in selecting an appropriate candidate was absolutely crucial to the success of the program.

Dr. David Kennedy from London, England, was selected and obtained a Master's Degree in pedodontics from Indiana in 1971. He returned to teach for a year at Guy's Hospital in London and then moved to Vancouver, British Columbia, where he is enjoying a highly successful modern pedodontic practice. He has authored the first textbook on pediatric operative dentistry published in England.

Dr. John Walsh, currently a second year graduate pedodontic student at Indiana, and an ASDC scholar from Dublin, Ireland, was also selected by the A. D. S. of E. He is establishing a fine reputation for himself at our School.

In 1971 another scholarship was offered to Indiana University School of Dentistry and the scholar was selected and supported by the American Dental Society of Europe Scholarship Fund. As mentioned earlier, to be eligible for membership in the organization, the dentist must be a resident of Europe and hold a degree from a recognized school of dentistry in the United States or Canada.

Each year the organization meets at a different location in Europe and the program always includes a number of essayists and lecturers from the United States. I had the very enjoyable privilege of accepting their invitation in 1974. This year Dr. H. William Gilmore, former chairman of the Department of Operative Dentistry whom most of you know, presented lectures to the Society. Dr. Walter Doyle, who received his Master's Degree in pedodontics from Indiana University in 1961

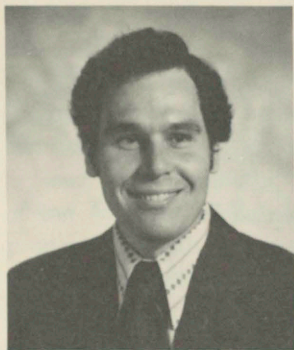
and practices pedodontics in Lexington, Kentucky, was also a guest lecturer. Dr. James Maloney, a past president of the American Dental Society of Europe, past and now interim secretary of the organization and also chairman of its scholarship committee and longtime friend of Indiana University, met with alumni of Indiana University during the meeting in Helsinki. Also present were Dr. Martin Walshe from Dublin, Ireland, who holds a Master's Degree in pedodontics from Indiana; Dr. Sverker Toreskog, who has a Master's Degree in prosthetics, and Dr. Jim Page, recipient of a Master's in pedodontics.

Although in 1873 this unique newly formed Society had no assured path to success, the confidence of its founders has been justified by its subsequent history. It has survived two world wars and other problems. It has contributed to international understanding by virtue of its international basis. It has made significant contributions to the progress of the profession and to dental education. Certainly it is worthy of your note. Indiana University School of Dentistry is proud of its close association with the American Dental Society of Europe.

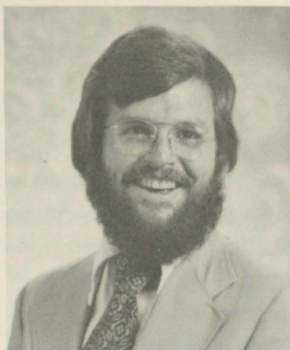


President Gish addresses the Board of Directors at the May meeting.

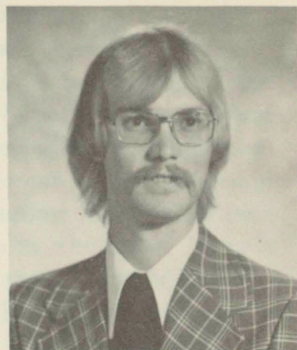
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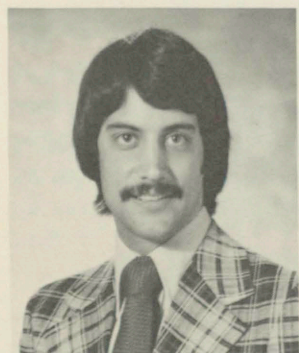
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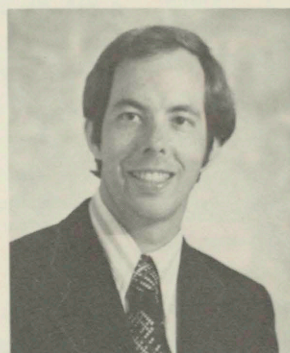
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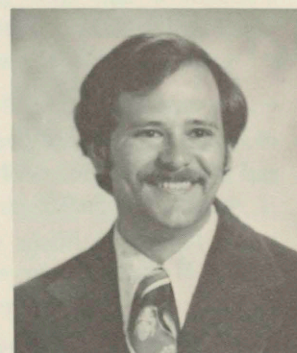
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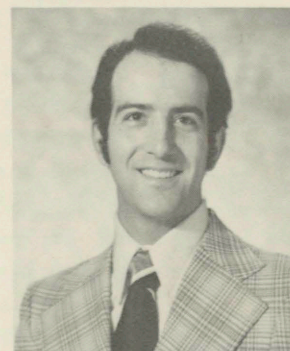
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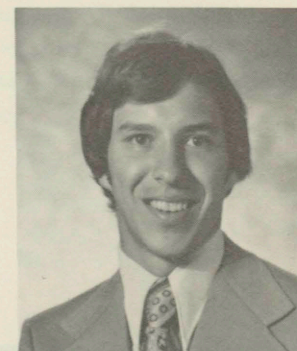
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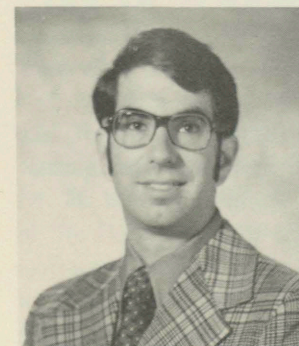
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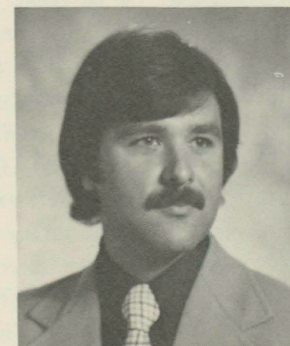
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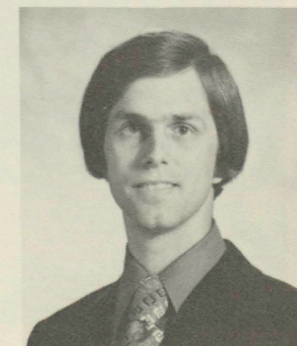
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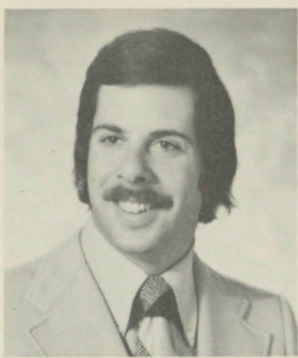
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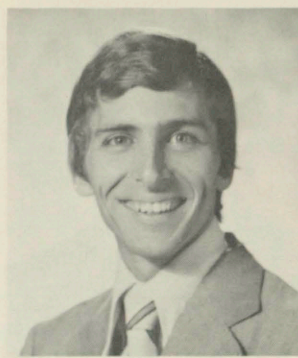
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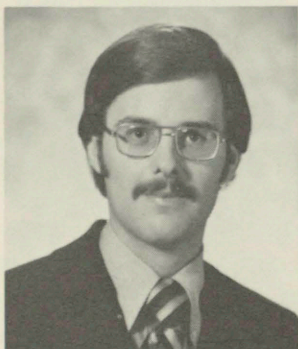
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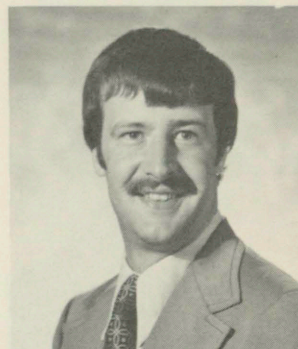
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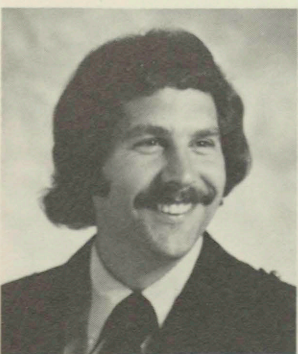
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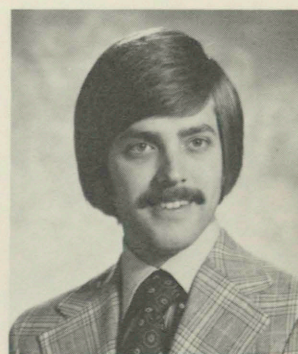
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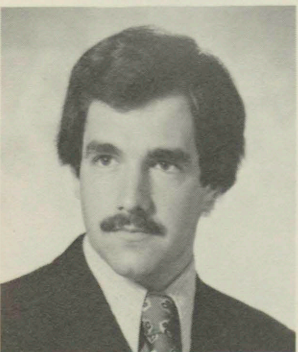
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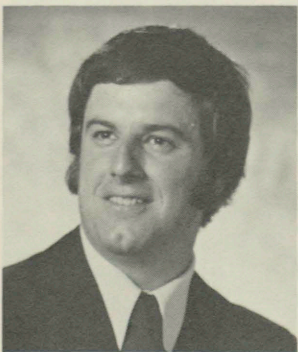
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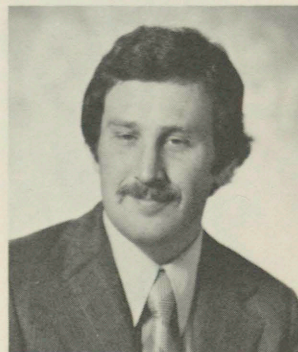
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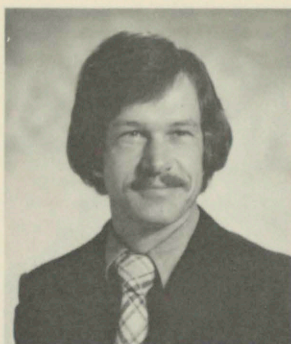
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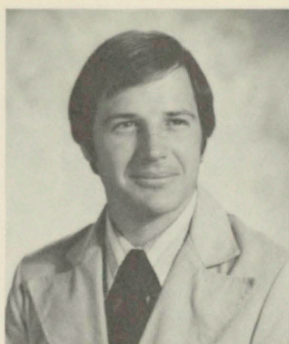
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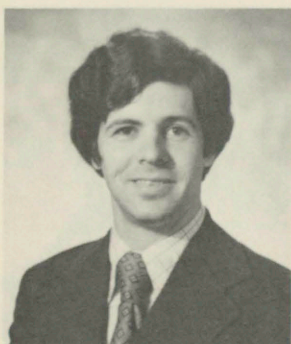
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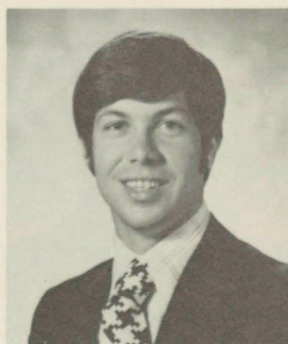
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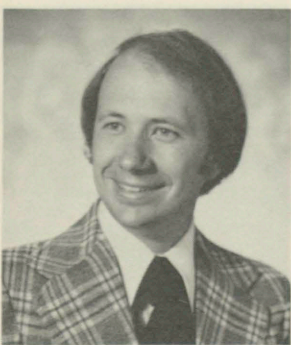
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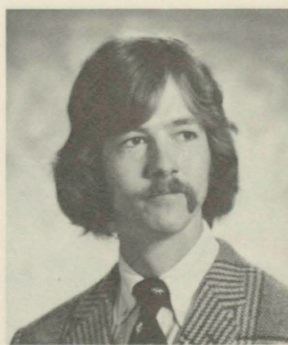
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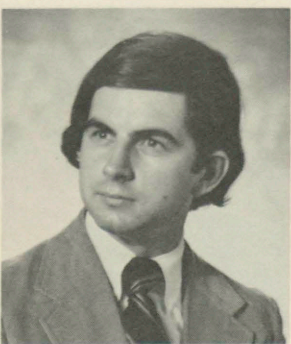
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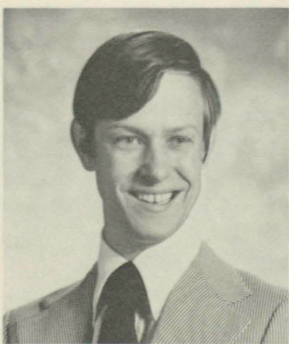
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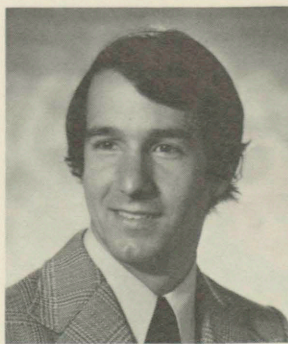
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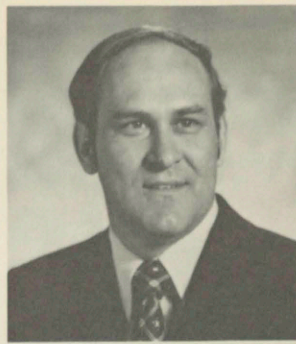
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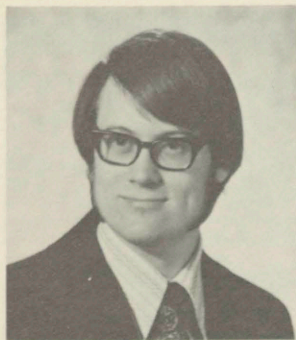
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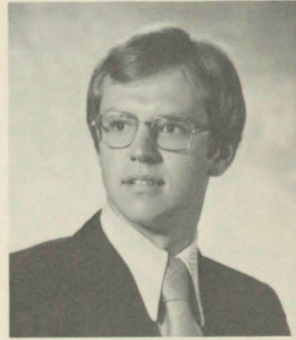
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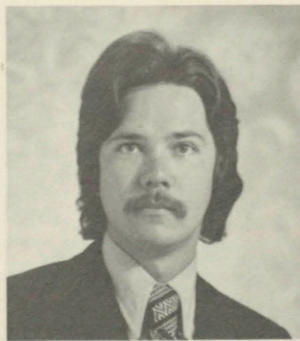
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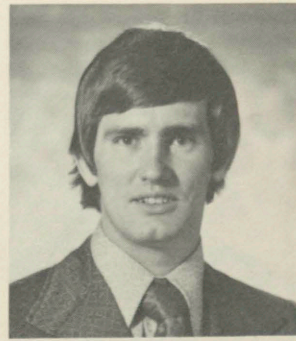
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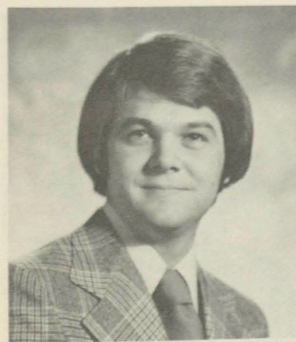
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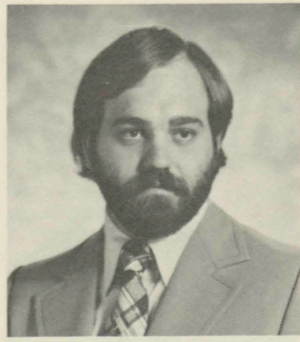
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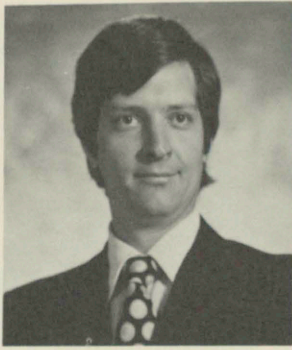
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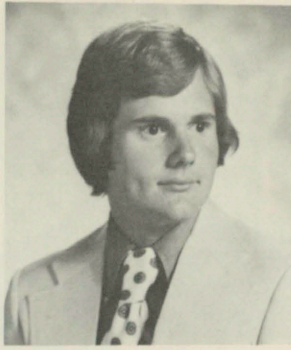
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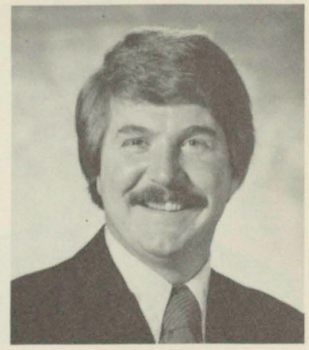
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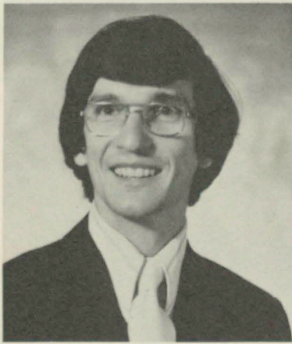
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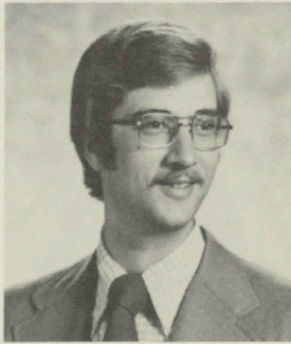
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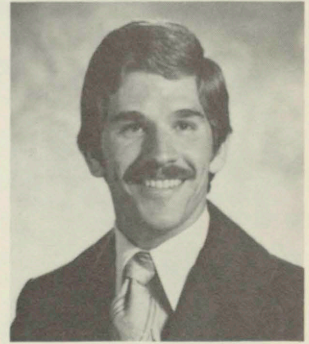
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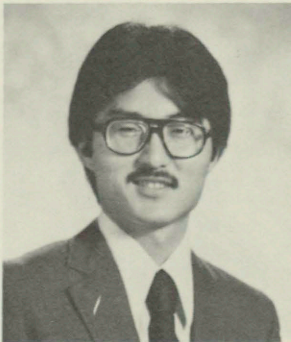
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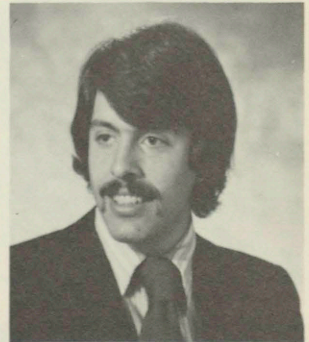
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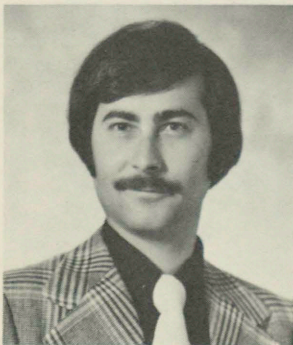
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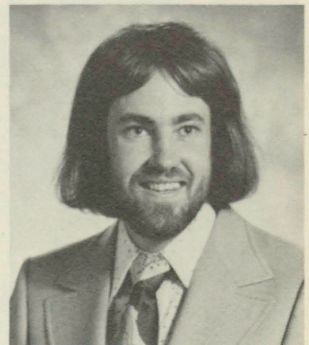
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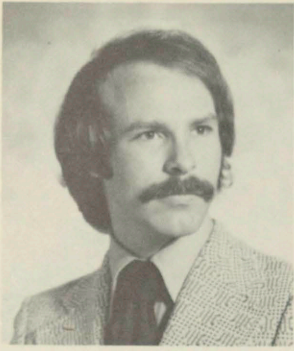
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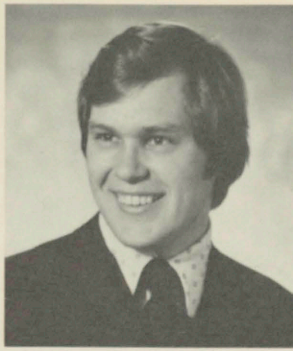
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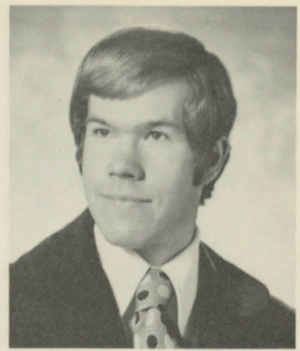
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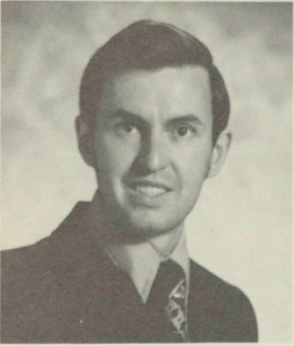
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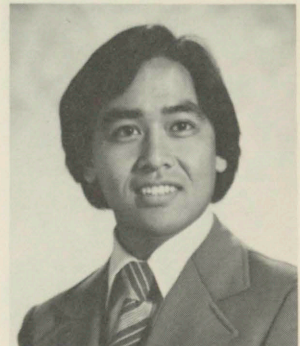
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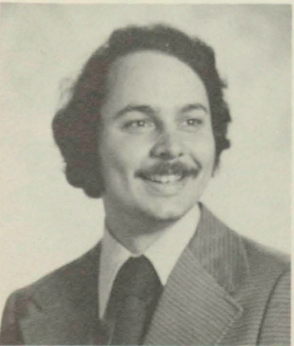
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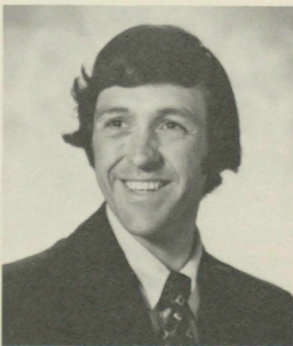
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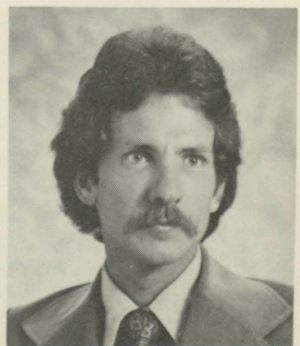
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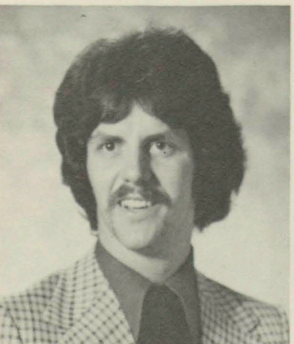
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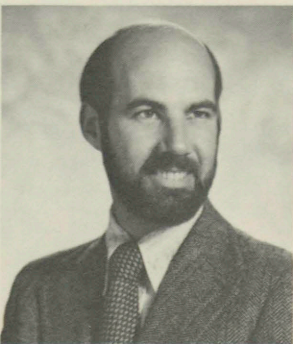
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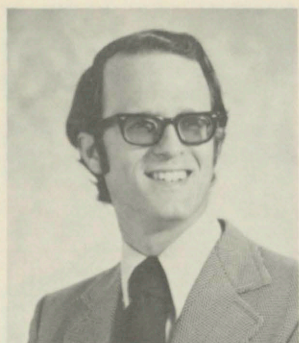
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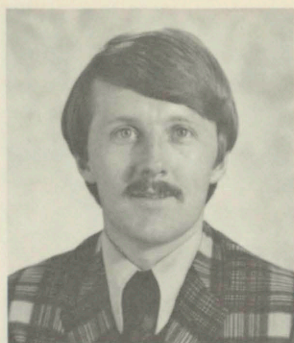
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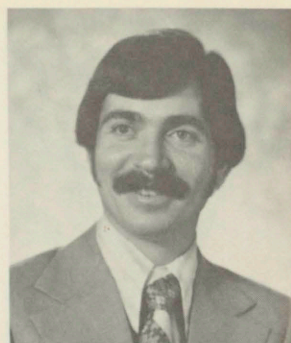
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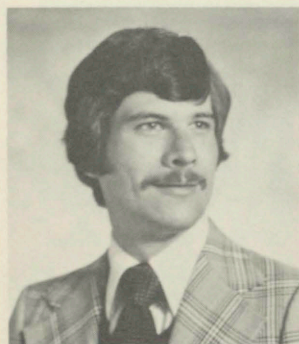
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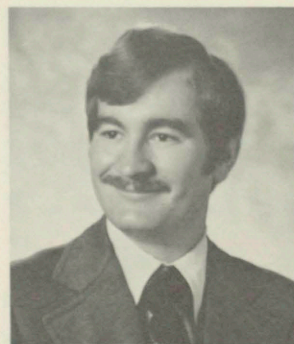
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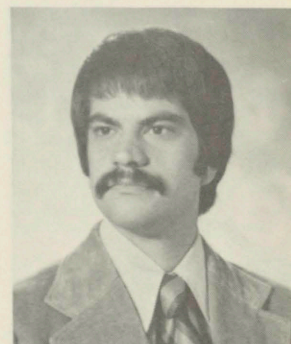
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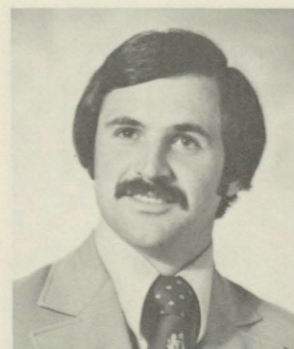
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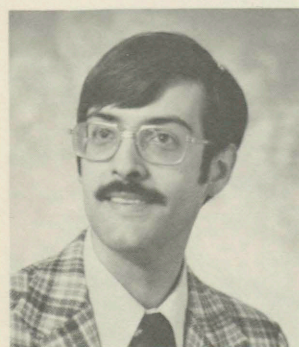
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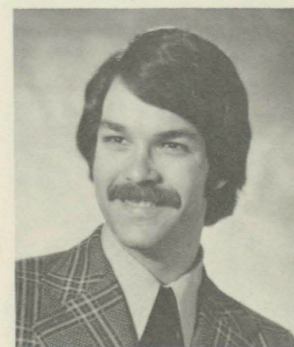
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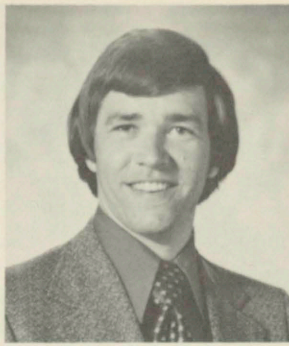
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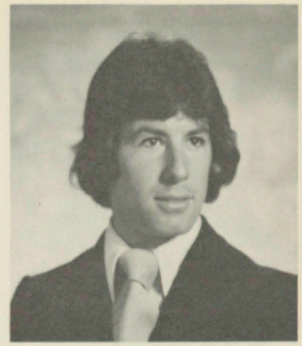
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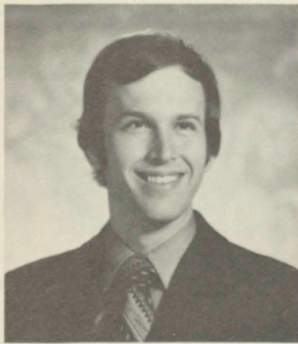
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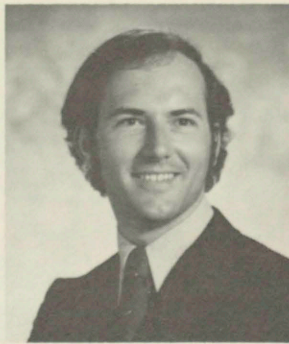
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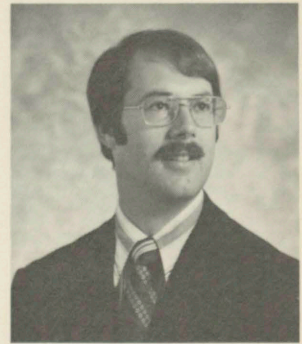
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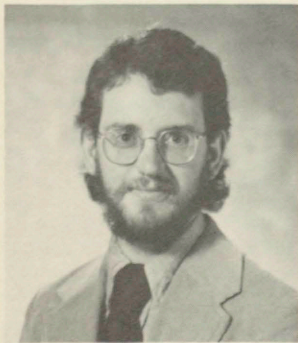
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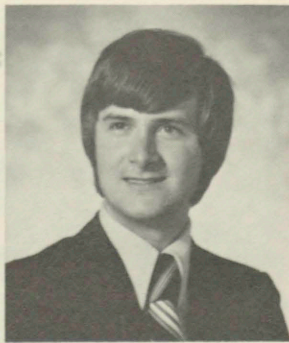
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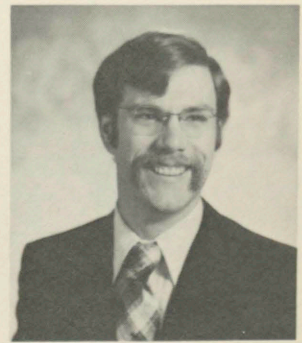
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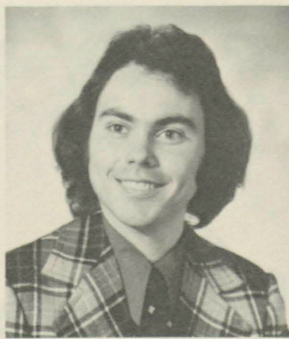
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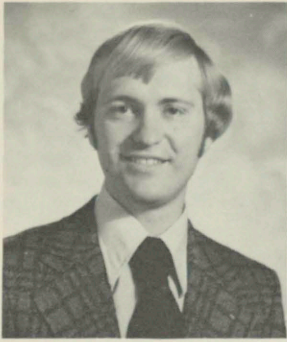
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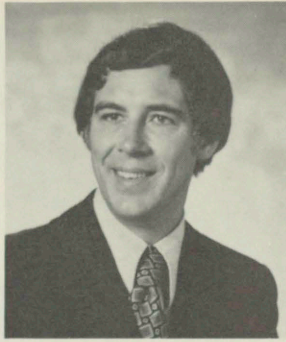
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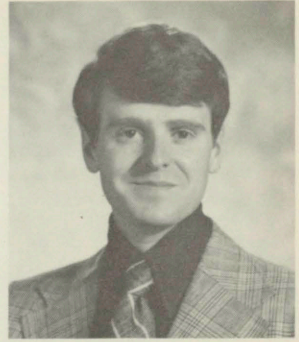
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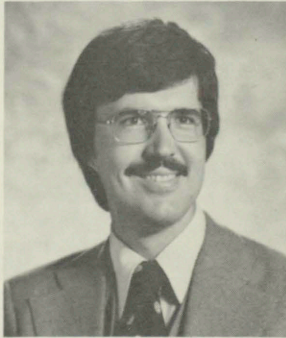
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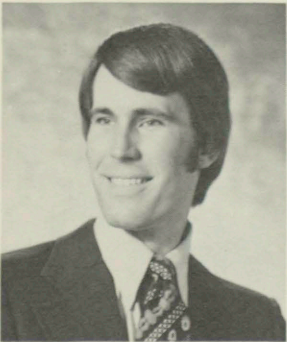
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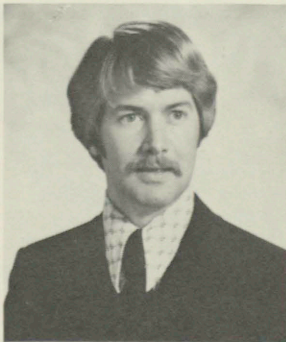
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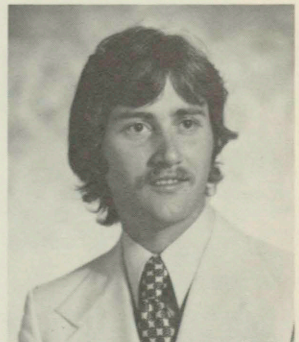
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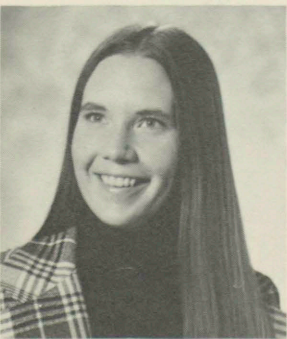
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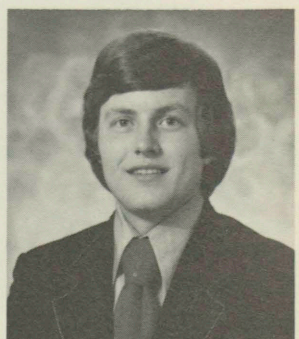
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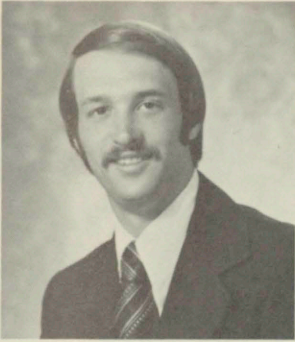
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Tyree, Carl J.



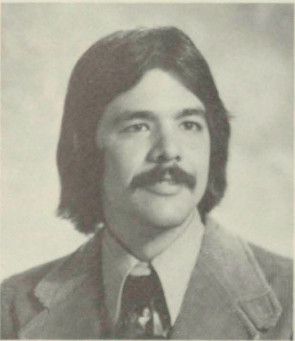
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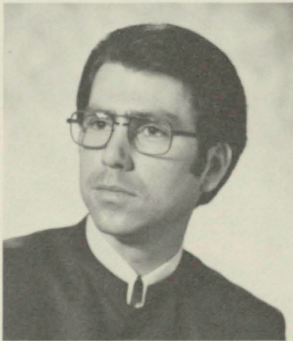
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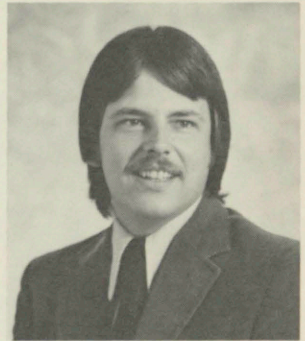
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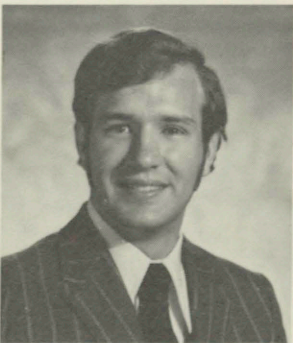
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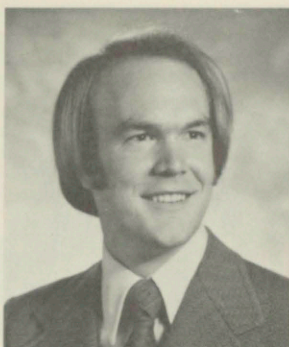
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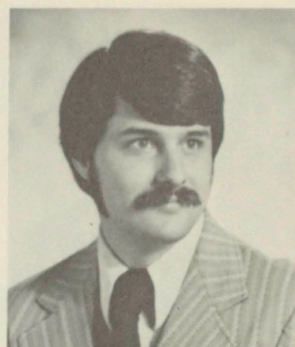
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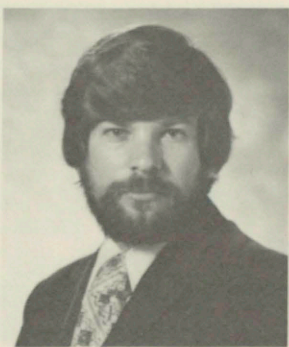
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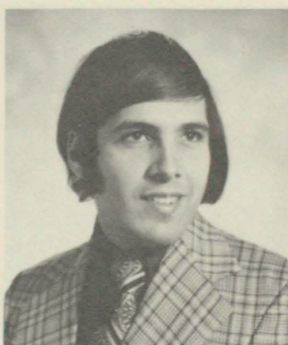
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Wozniak, Virgil M.



Wrege, Bruce R.



Zaharako, Ted D.

 Cathy Gering	 Kathleen Quill	 Rosann Spohler	 Dale Stewart	 Jo Ann Herman	 Susan Livewell	 Barbara Reed	 Marilyn Deuser	 Denise Schick	 Cathy Pichler		
 Brenda Kiser	 Gayla Gortman	 Martha Pickering	<p>INDIANA UNIVERSITY</p> <p>SCHOOL OF DENTISTRY</p> <p>DENTAL HYGIENE</p>  <p>1976</p>			 Gertrude Robinson	 Susan Nelson	 Joann Ward			
 Rita Kender	 Kathryn Big	 Cynthia Blain				 Jill Cunningham	 Shirley Hoffman	 Shari Harrison			
 Cilene Glomaccer	 Patricia Mitchell	 Trudy Coventine				 Deborah Jack Vice President	 Sandra Haines President	 Susan Dickson Secretary-Treasurer	 Janet Madden	 Brenda Smith	 Deborah Dorr
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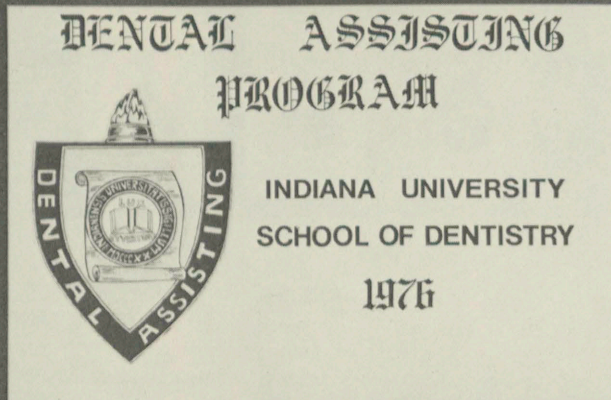
Nancy Mills



Tamara McCarty



Sandy Lindstrom



Susan L. Stevens



Carol Murphy



Karen Korte



Phyllis Davidson



Deborah Branstetter



Lori Johnson



Carolyn Collick



Sheri Reynolds



Jon Grayson



Pamela Dockery



Beth Kilian



Pamela Seales



Nancy Bennett



Kathy Alter



Heidi Reaser



Sara Brady



Jayne Howell



Julia Burke



Lory Piers



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INDIANA UNIVERSITY
Dental Hygiene
SCHOOL of DENTISTRY

1976



INDIANA UNIVERSITY
PURDUE UNIVERSITY
AT
FORT WAYNE
CAMPUS



Mary E. Mason



Rebecca S. Still



Virginia Cleveland



Catherine A. Beal



Paula Clifton



Patricia Gack



Meredith L. Strong



Mari L. Breen



Nancy J. Boney



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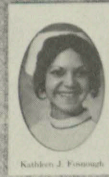
DENTAL ASSISTING PROGRAM

SCHOOL OF DENTISTRY


Indiana University - Purdue University at Fort Wayne Campus




Johanne Long




Kathleen J. Fennough




LeAnn Byrnski




Karen Greer



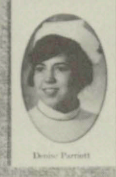
1976




Cynthia Williams




Rita Horne




Denise Parratt



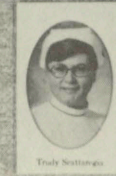
Lorne Holbert




Cheryl E. Miller




Linda Dulan




Trudy Settringer



Lisa E. Imochter



Susan Yonckin



Debra S. Thomas



Rae Ellen Dykstra
Secretary



Joan Thruel
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Jennifer Hays
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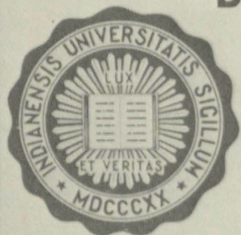
Lee Zubek
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Gale Gregory



Dental Assisting Program

Indiana University
School Of Dentistry

Northwest Campus

1976



Patricia McCoy



Stephanie Wood



Mary Comerford



Lynnette Uzzell



Joan Casse



Cynthia Prohl



Patricia Breunlin



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Janine Miller
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Cynthia R. Budd



Sherri L. Chappell



Shelby Hershberger



Debra L. Holston



Kathleen A. Hoose



Barbara R. Howard



Rebecca J. Jagla

Indiana University
Dental Hygienists
School of '1976 Dentistry
South Bend Campus



Gloria Kolmodin



Teri A. Jankowski



Christine Lazarek



Randi L. Lindsey



Lyn Marshall



Melinda J. McNeff



Pamela M. Nelson



Debra J. Mick



Carol Minichillo



Betty Pate



Allison L. Taplin



Susan L. Waller



Rosemary Mauchien
Secretary



Linda Holden
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Lee Ann Walker
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Sue Lutz
President



Jane Schatzki
Vice President



Marlene Schneider
Secretary



Diana Art



Elizabeth Kallen



Lori Chittum



Martha T. Day

Dental Assisting Program
Indiana University
at
South Bend



1976



Anna A. Bruehl



Kelly Ann Cox



Helen Koppelman



Wendy Miller



Sue Ann Christ



Karen Ann Ebel



Nancy Zelenka



Heather Jay



Lisa S. Marvick



Nancy Ford




Gail Green



Nancy Day

INDIANA UNIVERSITY

School of Dentistry



 Ron Armstrong


 Dale A. Bender


 Craig G. Carr


 Annette Dulor


 David C. Edmonds


 Lisa P. Gebke


 Cindy Hoagland


 Lance C. Kiedich


 James A. Ploness


 William Reed

DENTAL TECHNOLOGY

SPRING 1975 - 76


 Lewis Alan Koch


 I. Brent Rotherhemer


 Eric Sassaman


 Todd W. Sheets


 Douglas Swell


 Kerry DeBane Stateman



Dr. Ralph W. Phillips, Associate Dean for Research, is shown presenting scholarship checks to Glenda McCabe (center), and Brenda Pruitt, third year dental students. These annual awards from the Robert J. Alber Scholarship Fund are open to applicants who reside or have resided in Noble, Elkhart, LaGrange or Kosciusko counties.

Dental Auxiliary Education

James E. Vaught, Assistant Dean for Dental Auxiliary Education

The bicentennial year has been another year of growth for the Auxiliary Education programs of Indiana University School of Dentistry. The newest addition to the statewide programs is the Dental Laboratory Technology program at Indiana State University Evansville. Dr. Gordon Kelley, Director of Allied Health Sciences and Director of DAE, has developed the second dental laboratory technology program in Indiana. The first and only program until this Fall was at Indiana University - Purdue University Fort Wayne. The Indiana State University Evansville campus now offers dental hygiene, dental assisting, and dental laboratory technology, and the newly renovated space is attractive and well equipped. A special welcome to Mr. Paul Robinson who has been appointed as Supervisor of the new program.

In this column of the Fall, 1975, issue of the Alumni Bulletin, it was mentioned that a new major task was the initiation of the first "Weekend College" Continuing Education Course in Expanded Functions for employed auxiliaries. The course is now being offered for the third time and when this session is completed more than 110 students will have received the laboratory unit of instruction. There are six sessions of instruction including dental terminology, dental anatomy, rubber dam technique, silver restorative technique, for Class I, II, III, and V restorations, anterior restorative technique for Class III, IV, and V restorations, temporary treatment restorations, and the necessary matrices technique for each restorative. It is expected that students receive opportunity for clinical application of these skills in the private office of their employing dentist during the weeks between sessions of instruction.

In the past few months several assistants and hygienists who have completed the course have reported that they are successfully utilizing the restorative skills. Dr. Jack Showley, Assistant Professor of Dental Auxiliary Education, is the course Director. Plans for the next session will not be completed until after this issue of the Bulletin is printed. Any hygienist, certified assistant, or office trained assistant with one year's experience is eligible to enroll. The tuition is \$400 and it includes a copy of the course manual, all supplies and equipment, and Saturday noon luncheons. The six-weekend sessions include Saturday all day, and Sunday till noon, and a total of 72 hours of instruction.

It is a special pleasure to announce the appointment of Dr. Frank N. Ellis as Director of Dental Auxiliary Education at Indiana University South Bend. Dr. Ellis is a long-time personal friend and respected colleague. Dr. Ellis accepted this new responsibility on August 1. He was previously on the School of Dentistry faculty in Indianapolis as Associate Professor and Assistant TEAM Director. Dr. Ellis brings much experience and potential to the South Bend Programs and to him we extend a very warm welcome.

The dental hygiene program in Indianapolis is pleased to welcome Ms. Patricia Leitsch and Mrs. Jeanne Dray to the Faculty. These new appointments will be better introduced in the following column.

DENTAL HYGIENE

Evelyn Oldsen

Forty new students have enrolled in the first year class for the new academic year, and their "big sisters" are helping to orient them to the school. With seven students enrolled in the public health

dental hygiene program, we will all be busy with our family of 87 students.

We are pleased to have two new faculty members join our teaching staff. Mrs. Jeanne F. Dray received her dental hygiene education at the University of Missouri-Kansas City and recently completed requirements for her M.S. degree in nutrition from the University of Kansas. Ms. Patricia K. Leitsch received her Ed.M. degree in educational psychology from Temple University and a B.S. degree in dental hygiene from the University of Louisville.

Ms. Shermie Schafer, who was formerly a full-time faculty member, has accepted the position as the dental hygienist for the Oral Cancer Education Project. Under the direction of Dr. William Shafer, Chairman of Oral Pathology, Ms. Schafer will coordinate an extra-mural experience for our students which will enable them to work with graduate dental residents and provide oral cancer examinations and dental health education for geriatric patients living in nursing homes in Marion County. Ms. Schafer will continue as a part-time dental hygiene member in addition to her above duties. This extra-mural experience is just one of several which are planned to provide our students with clinical and assisting experience with patients and procedures which may not routinely be performed or observed in the dental hygiene clinic as well as to acquaint the students with the need for interdisciplinary cooperation of the various health fields in treating patients with multiple health problems.

DENTAL ASSISTING

Marjory H. Carr

On the evening of May 12, 1976, graduation ceremonies were held for 33 Dental Assistants at the Indianapolis Campus. We were privileged to have Dr. Maynard K. Hine, former Dean of Indiana University School of Dentistry, and at present Special

Consultant to the President of Indiana University, as our speaker.

Awards were presented to the following: Lorna Henry—Outstanding Dental Assistant—Indianapolis Dental Assistants Society; Julia Burke—C.V. Mosby Scholarship Book Award; Debbie Branstrator, Sara Brady and Phyllis Davidson—Indiana University School of Dentistry Table Clinic. Nancy Mills was recognized for her initiation into Sigma Pi Alpha—IPI Scholastic Honorary.

Named to the Dean's List were the following: 1st semester: Julia Burke, Jayne Revell, and Holly Reasner; 2nd semester: Julia Burke, Jayne Revell, and Nancy Mills.

The elective post-graduate course in Expanded Duty Dental Auxiliary Education (EDDA) graduated the following members of the 1976 class: Carolyn Blemker, Julia Burke, Phyllis Davidson, Sheryl Fornoff, Lorna Henry, Sandra Isenhower, Mary Beth Killila, Bobbie Kissner, Karen Kuntz, Nancy Mills, Jayne Revell, Sheri Reynolds, Mary Beth Shirey and Susan Stevens.

We were happy to have as members of the 1976 class Mrs. Sara Brady, wife of senior dental student, Mr. Ross Brady; Mrs. Debbie Branstrator, wife of junior dental student, Mr. Robert Branstrator; and Mary Beth Shirey, daughter of Robert C. Shirey, D.D.S. Also included in the class were two Special Students, Ms. Jeri Gruner and Mrs. Carolyn Blemker. These two young ladies because of their years of dental assisting experience were able to test out of some courses and enroll in others, so that within a two-year period, they were eligible for graduation and certification.

The Certifying Board of the American Dental Assistants Association has notified us that all 33 graduates successfully passed the Certification Test with the total class scores comfortably above the National norm in all areas tested.

We wish to welcome Dr. Lawrence Goldblatt, Assistant Professor of Oral Pathology, to the Dental Assisting faculty. He will be teaching A111 Oral Pathology, Physiology and Anatomy, and H224 Oral Histology and Embryology.

The following 1976 graduates have been employed by Indiana University School of Dentistry: Operative—Karen Hardesty; Undergraduate Pedodontics—Lorna Henry; Riley Hospital Dental Clinic—Julia Burke, Sheryl Fornoff Fox, Sandy Isenhower and Nancy Mills.

DENTAL AUXILIARY EDUCATION FORT WAYNE

George C. Smith, Director

It seems as though we must contend with some major problem each year. This year it is the remodeling program. What started as a worthy but relatively simple project soon became a headache. It all began the week of final exams last spring when the carpenters, plumbers, sheet metal workers, etc., etc., moved into our clinic and lab technology areas for a little remodeling. All we wanted was rearranging of the clinic in order to create three radiology rooms; a sterilization area; installation of two new dental units and chairs; relocation of the receptionist's area; relocation of a vacuum system; improvement of the lighting systems and ventilation. All of these tasks would have been expected to be completed in a few weeks. What happened? Strikes all over the place! As a result, the work is still in progress, just four weeks after school started. You think we don't have problems? However, our confidence and determination are undaunted, and we will put things together and still have a good year, we promise!

To help us solve some of the resultant problems and relieve the trauma created by our remodeling headaches, we welcome two new full-time faculty members. Joining us in our Dental Assisting Program is Ms. Gerri Reid. Ms. Reid hails from the Uni-

versity of Minnesota, where she received part of her training and was very active in the expanded duties program at the University of Minnesota Dental School. From Minnesota, she went to California where she completed her education; from California to Santa Fe, New Mexico; and she now has nearly completed her round trip back to the Midwest.

The other new face in the department is Ms. Daryle Labs. Ms. Labs is our clinic director and comes from Kalamazoo, Michigan, where she received her dental hygiene training. From Kalamazoo, she attended Ferris State College, Big Rapids, Michigan, and received her Bachelor's degree from that institution. Ms. Labs has replaced Ms. Lois Skinner McComb, who left Fort Wayne to serve as Director of Dental Hygiene at Sinclair Community College at Dayton, Ohio. We wish Ms. McComb the best in all of her future endeavors.



Ms. Gerri Reid

DENTAL HYGIENE

Gloria Huxoll

This year we will begin classes among packed boxes, paint, plaster, stacks of ceiling tile yet to be installed, and a song on our lips, "Return to work, sheet metal workers." The 20 first year dental hygiene students are anxious to start learning what a fulcrum is, what we mean by marginal ridge, etc. The remodeling of our clinic started the week of final exams last spring and progressed very well until . . . anyway, we have first year students from Columbus, Orland, Huntington, Winchester, Kokomo, Plymouth, Warsaw, Indiana and San Diego, California.

Students pursuing their Baccalaureate Degree in Education include one from the South Bend Campus and four from Dental Hygiene here in Fort Wayne. Those receiving B.S. Degrees in Education this spring were Judith Rucker, Pamela Daffron and Cindy Robb Eicher, graduates from the South Bend Dental Hygiene Program; and Janet Seiwert of Fort Wayne.



Ms. Daryl Labs

The Dental Hygiene graduates have accepted positions in various cities with Lafayette, Indiana receiving Paula Chittum, Linda Hockemeyer (recent bride) Messman, Nancy Rowe Spitznagle, and Shelley Stroup. Shelley is working part-time and continuing her education at Purdue University, majoring in Nutrition. Becky Stoll became Mrs. John Smith and is working in Hartford City. Cathy Beal is sporting a beautiful diamond and works in Upland, Indiana. Connie Clair travels to North Manchester each day, as does Ginnie Cleveland to Kendallville, Indiana. Patti Cook of Chesterton has accepted a position in Portage, Indiana. Cathy Etter is to be married this fall and is moving to Toledo, Ohio. Mary Bacon became Mrs. Tom Dunn and remains in Auburn, Indiana. Debbie Hayes and her freshman dental student husband have moved to Indianapolis where she will be a great addition to the TEAM project at the Indiana University School of Dentistry. Marjorie Barnett also left for Indianapolis and is walking to her job and loves every bit of it.

Lea Powers, Mary Mason, Tracy Hubbard Tweed, recently married, and Judy VanGheluwe all remain in Fort Wayne as well as Deb Glassley who works for her father, Dr. Don Glassley. Marsha May (soon to be LeClere) returned to Tell City, Indiana but at this writing there are no jobs available for her down there. Don't give up, Marsha, maybe after your wedding some fairy god-dentist will come along. It's always a real joy to hear from our alumni, so class of '76 keep in touch.

The class of '76 gave a fantastic Professor Roast on May 6, 1976 and awards were aplenty—a night to remember. Along with awards, the traditional Honors Night was held on April 26, 1976 at the Student Union Building. The Issac Knapp Dental Hygiene Society provided "sugar-less" snacks following the program. The Dental Hygiene Society also participated in making the Honors Night a joyful one as

the President presented to Linda Hockemeyer Messman an award of a certificate and \$25.00 for Outstanding Dental Education and to K. Elaine Johnson, Bluffton, a first year student, a \$260.00 scholarship. Money for the scholarship was collected at Bosses Night and was acquired by the dental hygienists donating one hour of their wages toward the scholarship. Great participation! Others honored were Marjorie Barnett, the A. Rebekah Fisk Award, and Lea Powers, the Gloria H. Huxoll Award. Cathy Etter received recognition for her "willingness to help others"; the C.V. Mosby Book Award and Sigma Phi Alpha memberships were presented to Connie Clair and Mary Mason. Connie Clair also received the Lewis B. Spear Award presented by Dr. P.E. O'Shaughnessy for outstanding attitude throughout two years of dental hygiene. The students receiving academic honors, eleven in all, were recognized by being presented with their fourrageres prior to Commencement. The class pins were presented at this special event also.

Speaking of honors, it is with pleasure that the winning dental hygiene student table clinic will honor Fort Wayne as well as the Indiana Dental Hygienist's Association at the National Meeting in Las Vegas. Deb Glassley and Shelley Stroup were selected by the ADHA Table Clinic Committee to present their table clinic, "Practical Application of Nutrition in the Dental Office," on Nov. 15, 1976. Be sure to put that on your calendar—"to see"—along with MGM Grand, Circus Circus, etc.

There is nothing I like better than to talk about our students so until the Spring issue—farewell.

DENTAL ASSISTING

Hilda Nofzinger

The Dental Assisting class, Indiana University-Purdue University at Fort Wayne, had 21 graduates in May. Honors were awarded to: Leann Byanski—High

Distinction; Debra Thomas—Distinction Honor; and Patricia Walls—Isaac Knapp Dental Assistants Society Scholarship.

Trudy Scattaregia and Cheryl Myers, May graduates, will return to the campus this fall to pursue a degree.

Eighteen students have been accepted in Dental Assisting for classes beginning August 25, 1976.

We welcome Ms. Geraldine Reid, Assistant Supervisor, on campus this Fall from Santa Fe, New Mexico.

DENTAL LABORATORY TECHNOLOGY

John R. Winings

The Dental Laboratory Technology Program at Fort Wayne will be starting its fifth year and has graduated three classes for a total of 35 students. In these three classes, all the students who took the recognized graduate exam administered by the National Board for Certification have passed the exam. We are pleased with this unanimous record and hope to maintain it.

This fall semester, we are admitting 20 new students and are also introducing two new part-time faculty. Drs. Dan Schmidt and John (Jay) Jones will be teaching part-time and have started practices in Auburn and Warsaw respectively. They are both recent graduates of the Indiana University School of Dentistry.

Our laboratory facilities are undergoing some changes that should help us conduct classes. Although the remodeling has not been completed, we are hopeful that we can start class on time and look forward to a successful year.

DENTAL HYGIENE SOUTH BEND

Bonnie Hamber

Many exciting "firsts" happened to our dental hygiene program during the academic year 1975-76. Ms. Rosemary Der Hagopian, University of Rhode Island, replaced Ms. Christine Mosher who had "retired to motherhood" and Ms. Sandra

Benson, Ohio State University, joined us as clinical instructor, making it the first time three full-time hygienists were employed by Indiana University at South Bend in the dental hygiene program. Even though they are now seasoned veterans returning for their second year of instructing, I would like to welcome them officially and thank them for their contributions and support during the previous year. I would like to encourage all alumni who have not had the opportunity, to stop in and meet these young women and get to know them.

A truly rewarding experience was shared by many of our alumni on March 20, 1976, when they returned for the first Alumni Day for dental hygiene graduates of IUSB. Eight table clinics by the senior dental hygiene students were given immediately following a welcome by Chancellor Lester M. Wolfson. Luncheon at the Ice House Restaurant in Mishawaka preceded a talk by Dr. Marjorie S. Reuthe on "Women in Dentistry". Faculty, as well as graduates, entertained a warm feeling of camaraderie as we said farewell to each other at the end of the day's activities. We are looking forward to the second Alumni Day in 1977 and hope all of you will be there.

May 11, 1976, brought even another "first"—the first time the IUSB dental hygiene program graduated 24 students! It was also the largest class ever graduated! It seemed to be an especially joyous occasion for Chancellor Wolfson for he received several hugs and kisses from the graduates. However, I think even the Chancellor was surprised when he was hugged and kissed simultaneously by two dental hygiene graduates. Although joyous, graduation is also a little sad—at least for faculty; for we had to say goodbye to 24 young people who had become so much more than the word "students" implies—more like good friends. Goodbye, Dental Hygiene Class of 1976. We wish you success in your profession and only the best that life has to offer. Come back to see us often.

Through the year these young women did many things which made us proud to be associated with them, one of which was their attendance, in total, at the Indiana Dental Meeting in Indianapolis where they presented eight table clinics. One group composed of Patricia Breunlin, Cynthia Buda, and Lori Scott, received the second place award for their outstanding clinic on "Recognizing Oral Cancer of the Tongue."

On January 18, 1976, our class of 1977 received their caps during a ceremony made even more beautiful than usual by the presence of 24 long-stemmed roses tinted lavender, the color of dentistry. They were presented to each student as they were being capped. Ms. Kika M. Bechaka, a 1971 graduate of the IUSB dental hygiene program, gave the address. Her message was inspiring to everyone present.

The class of 1977 has returned as our second year dental hygiene students, and together we look forward to a wonderful year under the guidance of our new Director of Dental Auxiliary Education, Dr. Frank N. Ellis. We welcome him, wish him success in his new capacity as Director and offer our loyalty and support in the coming years.

DENTAL ASSISTING SOUTH BEND *Maureen Schneider*

Nineteen members of the dental assisting class of 1976 at Indiana University at South Bend participated in graduation ceremonies May 7, 1976, on the IUSB campus.

Ms. Maureen A. Schneider, supervisor of the dental assisting program, presided. Dr. Gerald E. Harriman, IUSB dean of faculties, offered welcoming remarks, and Dr. Alfred Fromm, director of dental auxiliary education at IUSB, addressed the class. Rev. Vern W. Ellis of St. Paul Lutheran Church, Woodland, gave the invocation and benediction.

The Ralph G. Schimmele award for academic achievement was presented to

Sue Anne Lutz of Elkhart, class president. The instructor award for clinical and scholastic achievement and the student award both went to Evamarie Kocsis of South Bend.

Clinical awards were presented to Jean Ann Bouche, Valparaiso, and Sue Ann Christ, Mishawaka. Class pins were presented by Ms. Schneider and Ms. Rosemary Monehen, dental assisting instructor.

Other class officers were Jane L. Suhanosky, Bremen, vice-president; Linda Janeane Holmes, North Liberty, secretary, and Lu Ann Walters, Elkhart, treasurer.

Also in the class were Deanna L. Apt, Kelly Ann Cox, Martha Treleven Dow and Nancy L. Pohl, all of South Bend; Lisa S. Marseilles and Karen Ann Riffel, Mishawaka; Melissa Mary Milroy, Elkhart; Geraldine Ann Gorny and Karen Ann Zakrzewski, New Carlisle; Susan Marie Stine, Goshen; Lori Irene Chalman, LaPorte, and Heather Luise Joy, Michigan City.

Dr. Michael Johns, a pedodontist, has joined our staff as an instructor in Chair-side Procedures, in the dental assisting department. He received his D.D.S. and M.S.D. at Indiana University School of Dentistry, where he also completed the graduate pedodontic program. He is a member of the American, Indiana and St. Joseph County Dental Associations, the American Academy of Pedodontics, the American Society of Dentistry for Children, Sigma Pi Alpha scholastic honorary fraternity, Psi Omega dental fraternity, and the Delta Tau Delta social fraternity.

Dr. Johns is a native of South Bend.

Dr. James Macri, an orthodontist, has joined our staff as an instructor in microbiology, in the dental assisting program.

Dr. Macri received his Bachelor of Science and Master of Science degrees from Ball State University in biology. He received his D.D.S. and M.S.D. at Indiana University School of Dentistry, where he

also completed the graduate orthodontic program.

He is a member of the American and Indiana Dental Associations, the American Association of Orthodontists, Omicron Kappa Upsilon honorary fraternity, Sigma Pi Alpha scholastic fraternity, Sigma Pi Epsilon social fraternity and Psi Omega social fraternity.

Dr. Macri is a native of Mishawaka.

DENTAL AUXILIARY EDUCATION AT EVANSVILLE

Gordon Kelley, Director

1976 marks the beginning of our sixth year in Evansville. During the past five years we have come a long way in fulfilling dentistry's master plan for Southwestern Indiana. We now have all three dental auxiliary education programs in operation for the first time and I am sure each one will benefit from observing the other two.

Due to several unforeseen circumstances we have almost an entirely new faculty this year. In Dental Assisting we welcome a 1974 graduate of our program, Glenda Miller. She has been in private practice



Ms. Glenda Miller

and also has completed her Associate Degree. Miss Suzanne Schnacke, who was here last year as assistant Supervisor, has been promoted to Supervisor.

In Dental Hygiene we have two new faculty members, both of whom are graduates of our program and have nearly completed their baccalaureate degrees. Catherine Niederhaus, who graduated in 1975, will be overseeing the didactic phases of the program and Christine Reising, a 1974 graduate, will oversee the clinical phases. Both girls have been in private practice since graduation.

Our new dental technology program officially opened this fall with eight students. We wish to welcome Mr. Paul Robinson to the Supervisor's position. This job will be very time-consuming as we solve problems and prepare for our first site visit. Paul comes to us after a 20-year hitch with the U.S. Navy where he managed a central dental laboratory.

DENTAL HYGIENE

Catherine Niederhaus

Fall semester 1976 finds 14 new dental hygiene students and two new dental hygiene instructors. The senior students are back and already talking about boards. The freshman students are wide-eyed and exploding with enthusiasm. All the faces seem to blend together, and already everyone has become old friends.

This first week of school the senior girls had a "welcome" party for their "little sisters" to break the ice. They've all started looking into the coming year for JADHA. We hope this will be the best year yet for their junior organization. We are planning return visits to the public schools in Vanderburgh County with brush-ins and classroom education. We are also hoping to return to the Job Corps at Camp Breckenridge, Kentucky.

One of the highlights this fall for all our students is a continuing education program



Ms. Catherine Niederhaus



Ms. Christine Reising

to be held here in Evansville. The students are already familiar with the speaker, Ester Wilkins Gallagher, R.D.H., D.M.D., as she is the author of one of their most used text books. We hope this will be a rewarding experience for them.

DENTAL ASSISTING

Suzanne Schnacke

At IUSE, school is now in full swing. We have 19 interested and enthusiastic students and we are looking forward to a busy year. We hope to have a capping ceremony in October, before the students begin their clinical practice.

Our summer has been extremely busy with planning and curriculum changing. We made several curriculum modifications last year which were very successful, so our changes this year have been minor.

Glenda Miller, a 1974 graduate of our program, is joining our faculty on September 7, and we are looking forward to having her with us.

All in all, we are looking forward to a very work-filled but enlightening year.



Mr. Paul Robinson

DENTAL LABORATORY TECHNOLOGY

Paul E. Robinson

The dental laboratory admission committee accepted eight students for the inaugural class in dental laboratory technology at Indiana State University Evansville. In selecting these students, the committee considered the scholastic aptitude, grade point average, scores on standardized tests which measure manual skills, color perception tests, and each candidate was subjected to a personal interview.

The class consists of four female and four male students looking forward to challenging careers in dental laboratory technology. The class load is heavy, with 19 semester hours being the norm. The students spend 25 hours per week in class, with 14 hours of lecture and 11 hours of lab. We are studying the guidelines of the Health Resources Administration, the National Commission on Accrediting, and the council on Dental Education, in establishing the curriculum. One of our primary goals is to get the dental laboratory program accredited; therefore the design of our program objectives is based on accepted dental auxiliary educational philosophy.

The groundwork of this program was laid by Dr. Gordon Kelley. Through his guidance and untiring efforts the program has become a reality. I, as a member of the ancillary service groups of dentistry, applaud his efforts. Well done.

DENTAL HYGIENE NORTHWEST

Emily Carr

In May the students were guests of the Northwest Indiana Dental Hygienists' Association at their monthly meeting. An informal social gathering was held to introduce the students to local dental hygienists.

Several fund-raising projects were sponsored by the students last year. In May the students voted to donate a portion of the proceeds to the Educational Trust

Fund of the American Dental Hygienists' Association.

The incoming class of dental hygiene students were guests of their "Big Sisters" in the second year class at a picnic held at Spectacle Lake in Valparaiso, in August. The new students in the program are as follows: Christy Blaine, Hammond; Susan Franchimont, Highland; Cheryl Goodman, Lowell; Juanita Gore, Gary; Cynthia Gray, Hobart; Linda Hufford, Clarks Hill; Cynthia Kirby, Merrillville; Audrey Machkovech, Hobart; Linda Moore, Munster; and Trudy Neible, Columbus.

DENTAL ASSISTING

Jennifer Hays

On January 8, 1976 the Indiana University School of Dentistry, Northwest Campus began a dental assisting program with 12 students. These students attended one day of the Chicago Dental Society Mid-Winter Meeting and the Indiana Dental Association's Annual Session in May. At the May meeting these students all presented Table Clinics and some of them emerged as winners in our State Dental Assistant's Association Student Competition: Cindy Prohl won the Best Poster Award, Rae Dykstra won the best paper presentation award, and Rae Dykstra and Mary Comerford won honorable mention for their table clinic presentation.

At the Northwest Dental District Society Meeting on April 21, 1976, the class were guests of honor along with the dental hygiene students.

The students were capped on May 7, 1976, and began their second semester curriculum on May 10, 1976. They attended classes until August 13, 1976.

August 20, 1976 was their Commencement Ceremony. Our main speaker was Dr. John Kroepfl, Chairman of the Arts and Sciences Department at Indiana University Northwest. Dr. Kroepfl has been most cooperative and helpful to the Dental Assisting Program. Dean Vaught extended

greetings, represented Dean McDonald (who was unable to attend because he was out of the country) and presented the students with their certificates. The following students were honored during the ceremony: Patricia McCoy, Lee Zubeck, and Joan Thruel received the Highest Academic Achievement Award; Patricia McCoy and Dawn Smith received the Highest Clinical Achievement Award; Patricia McCoy received the Instructor's Award for the Highest Scholastic and Clinical Achievement (the Most Outstanding Dental Assisting Student of the Year Award).

The students have presented the school with a painting which is being displayed in our reception area.

This class has truly been a credit to our Auxiliary Education Program and have earned an outstanding representation in our Northwest Area Dental Community.

The second class of Dental Assisting students began their program on August 30, 1976. We are anticipating another very successful year.



Jack Carr's candid shots at the May meeting of the Board of Directors.

Awards Given at Honors Program

The Indiana University School of Dentistry Honors Program was conducted on May 16, 1976, with Dean Ralph E. McDonald presiding. The following awards, certificates and honors were given.

The Dr. Ert J. Rogers Memorial Award in Crown and Bridge was presented to Dr. Thomas J. Allen; the John W. Geller Award in Research was presented to Dr. George K. Bruner; the American Association of Endodontists Award of a certificate to the senior showing interest and proficiency in the field of endodontics went to Dr. Dirk A. Sterley; the Indiana Society of Oral Surgeons—Glenn J. Pell Memorial Award (top 10% in oral surgery and upper 1/3 of class; must have internship) was presented to Dr. Charles L. Nelson.

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. Thomas J. Allen. The C. V. Mosby Awards for scholastic excellence in: Complete Denture to Dr. James E. Edwards; Preventive Dentistry to Dr. Roscoe M. Brady; Dental Hygiene to Denise Schultz; Dental Assisting to Julia Lynn Burke; Endodontic award to Gary L. Breslauer. The Rossya Kauffman Memorial Award in Dental Hygiene for proficiency in patient education was presented to Deborah Dost; 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 Celeste Glassmeyer, and an Award of certificate for proficiency in radiology from the American Academy of Dental Radiology was presented to Dr. William M. Record.

A certificate from the American Academy of Oral Medicine for Achievement, Proficiency and Promise in the field of Oral Medicine was won by Dr. Galen R. Williams.

The American Academy of Periodontology Award of one year's subscription to the *Journal of Periodontology* for proficiency in periodontology went to Dr. Thomas J. Allen; an Award and plaque of the Indiana State Society of Pedodontics (\$50) to the senior who plans to continue in graduate pedodontic program was presented to Dr. David M. Miller; 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* (plus a cash award of \$25 from the Indiana Unit) were awarded to Dr. Dennis W. Lamp.

An Indiana Academy of General Dentistry Award was presented to Dr. Dirk A. Sterley; an award of a certificate to the senior showing interest in development of the orofacial complex from the American Association of Orthodontics went to Dr. Thomas L. Sutton.

Senior Essay Awards were as follows: First, The Block Award (\$100) to Dr. Patrick P. Johns, "Type B Hepatitis in the Dental Office"; Second (\$50) to Dr. Stephen K. Buckingham, "Blood Pressure Determinations"; Third (\$25) to Dr. Roscoe M. Brady, "A Study of the Anti-Plaque Potential of Occulusal Sealants Containing Different Anti-Microbial Agents"; and Fourth (\$25) to Dr. Charles L. Nelson, "Warty Dyskeratoma of the Oral Mucous Membrane (Oral Focal Acantholytic Dyskeratosis)."

Table Clinic Awards were as follows: First Place (\$50) to Dr. C. Joseph Tyree, "Space Management of Unerupted First Permanent Molars Following Premature Loss of Deciduous Second Molars";

Second Place (\$25) to Dr. John W. Jones, "Fabrication of Temporary Coverage"; and Third Place (\$25) to Dr. Philip L. Nicholson, "Elective Surgical Procedures Used In Complete Prosthetic Rehabilitations." The Best Dental Hygiene Table Clinic (\$20 each) to: Shirley Hillman, Shari Hinrichsen, Kris Kessler, Ronda Klise, Janet Madden and Michelle Vidan for clinic entitled: "Do You Know Your A-B-C's?"

The School of Dentistry Alumni Association Plaque (The Maynard K. Hine Award) plus membership in the Alumni Association was presented to Dr. Thomas J. Allen; the Harriett F. Hine Award to a dental hygienist went to Kathryn Illg; the International College of Dentists Award for outstanding achievement during his years of dental study to Dr. Patrick P. Johns; an Award of a plaque and \$50 bond by the Indiana Dental Association in recognition of services to organized dentistry through student A.D.A. to Dr. John J. Meier; a plaque from National Chapter of Alpha Omega to the student

who earned an outstanding scholastic record for four years of dental study at Indiana University School of Dentistry to Dr. Thomas J. Allen.

Sigma Phi Alpha, Dental Hygiene Honorary Society, certificates and pins to JoAnn Hermon, Kathryn Illg and Rita Winks.

The Omicron Kappa Upsilon certificates were presented to Dr. Thomas J. Allen, Dr. Robert C. Batchelder, Dr. John G. Blazic, Dr. Allen R. Bond, Dr. James E. Edwards, Dr. Kent D. Fischvogt, Dr. Gary L. Gotsch, Dr. Joseph A. Haake, Dr. Patrick P. Johns, Dr. Stephen C. Koehler, Dr. John T. Krull, Dr. Dennis W. Lamp, Dr. David M. Miller, Dr. Daniel L. Milligan, Dr. Bryan E. Snook and Dr. Dirk A. Sterley.

The James L. Maus Memorial Scholarship Award (\$250, a certificate and a Permanent Plaque that is displayed in the School of Dentistry) was presented to Mr. Bradford D. Bingham; and the American Academy of Gold Foil Operators Award went to Dr. Stephen K. Buckingham.



Dr. James R. Roche, left, recipient of the Amoco Foundation Award for distinguished teaching, joins other distinguished teaching award recipients with President Ryan

Another Third Generation at I.U.S.D.

Jack D. Carr, Associate Professor of Radiology

Dr. Wilbur C. Boren started a dental dynasty in 1913 when he graduated from the Indiana Dental College. After graduation he spent a year as an intern at the Fort Wayne School for Retarded Children. He established a practice in Princeton, Indiana. Dr. and Mrs. Boren had two children, Margaret and Wilbur C. Boren. Dr. Boren enjoyed a fine practice and was active in church and masonic affairs as well as having an interest in farming. He died in 1937 when his son was a junior dental student.

Wilbur Boren, Jr. graduated from Princeton High School in 1934 and attended Indiana University as a pre-dental student in 1935 where he was a Delta Tau Delta fraternity member. He entered Indiana University School of Dentistry in the fall of 1934 and graduated in 1939. He was an active member of the Delta Sigma Delta fraternity. After graduation he interned at the Long and Riley hospitals, and then went into private practice in Princeton for a year and a half. Wilbur and his lovely wife Margo have two children, Rebecca and Wilbur C. Boren III. Wilbur C., Jr. joined the U.S. Navy where he attained the rank of Lt. Commander. After World War II he returned to Princeton and has served his profession ever since. He has been active in the Dental Alumni Association, serving on the board and as President in 1975.

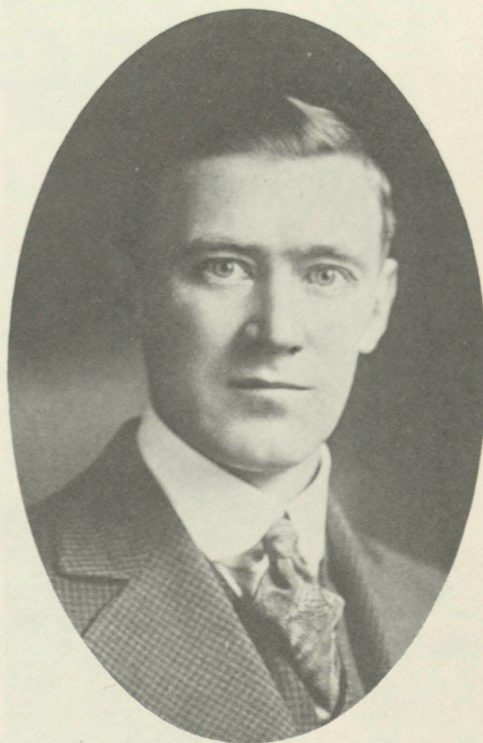
His hobbies are fishing and golf. He especially enjoys hunting birds with Dr. John Steele.

Other activities include being a hospital board member, Methodist Church officer, member of the Masons and the Shrine, the Elks, American Legion and Veterans of Foreign Wars.

Wilbur C. Boren III was born in 1942 and followed the tradition of the Boren family. "Butch" graduated from Indiana

University School of Dentistry in 1967 and since that time has served in a Pedodontic Clinic in Honolulu, as an intern in oral surgery at San Francisco General Hospital, and as a resident in oral surgery at Brooklyn-Cumberland Hospital in Brooklyn, New York. After a year at Indiana University Medical Center, he entered private practice in oral surgery in Elkhart. He passed the American Board of Oral Surgery in 1974. "Wil" is an avid golfer as is his father. He also has been active in component activities as President of the Elkhart Society.

Wilbur III married a Dental Hygienist, Nancy Ann Bitter, who had received a B.S. degree in Public Health Dental Hygiene. Nancy worked for the Indiana Board of



Wilbur C. Boren, Sr.

Health, Colorado State Department of Health, Hawaii State Department of Health, and the Dental Health Center in San Francisco. She also received her Master's degree from Columbia University. Nancy and "Butch" have a son born December 13, 1973, and his name is Wilbur C. Boren IV. Perhaps we should enroll him now. Another dental member of the family is Dr. H. William Gilmore, a brother-in-law of Wilbur C. Boren, Jr.

Quite a dental family. We can surely be proud of them.

AUTHOR'S NOTE:

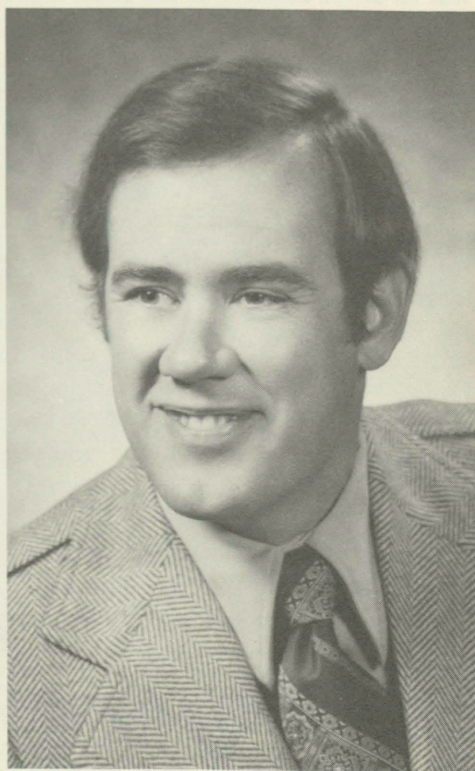
Genealogists suggest that the designation of Sr, Jr, III, and IV is proper; however, Wilbur Jr. was seldom called Jr., and Wilbur III was called "Wil" or "Butch". It is reasonable that Wilbur C. Boren IV be so named because he was born on his Great Grandfather's birthday December 13th.



Mrs. Wilbur C. Boren, III.



Wilbur C. Boren, Jr.



Wilbur C. Boren, III.

**UNIVERSITY OF ALABAMA
NAMES DR. VOLKER
AS CHANCELLOR**

Dr. Joseph F. Volker, president of The University of Alabama in Birmingham (UAB), has been named chancellor of the University of Alabama System by the institution's Board of Trustees.

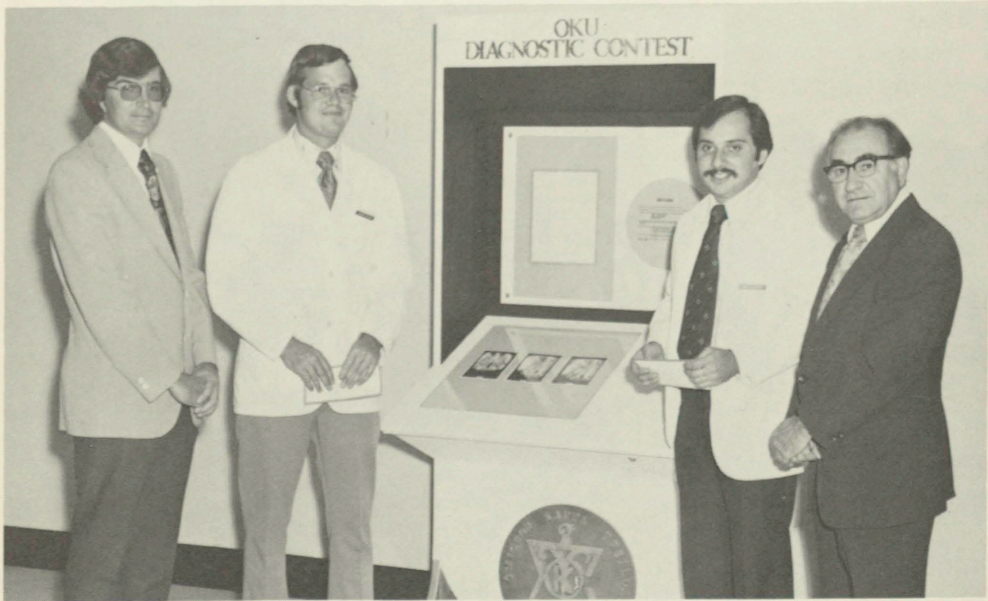
As chancellor, Dr. Volker, a native of Elizabeth, New Jersey, is chief executive officer for the entire System, which is composed of campuses at Tuscaloosa, Birmingham and Huntsville. Since 1969 the campuses have been autonomous institutions, each with its own president reporting directly to the University of Alabama Board.

Dr. Volker has been at the Birmingham campus where the University of Alabama Medical Center is located since 1948 when he was named the first dean of the School

of Dentistry. He became UAB's first president in 1969.

Recognized particularly for his knowledge in the field of health education, Dr. Volker has served as consultant on health training, manpower, and facilities projects for the federal government, 14 state governments, and several foreign countries. He has been awarded nine honorary degrees, five from institutions abroad, and has been decorated by the Governments of Thailand, Iceland, and Czechoslovakia.

Dr. Volker attended Rutgers University and received his D.D.S. from Indiana University in 1936. His A.B. and M.S. degrees, as well as a Ph.D. degree in biochemistry, are from the University of Rochester. He took his dental internship at Mountain Side Hospital, Mount Clair, New Jersey, and later held faculty appointments at Rochester and Tufts College, serving as dental dean at the latter institution before coming to Birmingham.



Shown receiving their \$25 awards as winners of a recent Endodontic Diagnostic Contest sponsored by Theta Theta Chapter of Omicron Kappa Upsilon are fourth-year student Stephen F. Paige (second from left) and third-year student Gerald A. Levin (third from left). Dr. Kenton Susott (left), co-chairman of the Awards Committee, and Dr. Samuel Patterson (right), chairman of the Department of Endodontics, are congratulating them. Dr. George Vail is the other co-chairman of the six-member Awards Committee. Theta Theta Chapter sponsors the continuing contest to encourage dental students to sharpen their diagnostic skills. Each quarter a different diagnostic problem is displayed and the winners receive cash awards. Various clinical departments in the School of Dentistry develop the case problem and evaluate the students' analyses on a rotational basis.

TWO NEW LOAN FUNDS ESTABLISHED AT IUSD

The limited resources of the Scholarship and Loan Committee of the School of Dentistry were recently increased by generous gifts from two sources.

THE SUE STARKEY MORRIS MEMORIAL FUND is named for a 1964 graduate of the Dental Hygiene Program who died on June 18, 1975. She was the daughter of Mr. and Mrs. Dallas Starkey of Terre Haute, Indiana and was married to Joseph Morris of Terre Haute. She is survived by a daughter, Leslie. Her classmates have solicited contributions among themselves and others to establish the loan fund in Sue's memory. Dental Hygiene

students on the Indianapolis campus may apply for such help during the spring of their first year, for a loan to be issued the following fall. The fund, which now contains \$610, will be revolved every two years, helping one student each year.

On June 23, 1976, the AURELIA S. AND LOUIS Y. MAZZINI LOAN FUND was established to make loans available to students who plan to pursue a career in dental education and research. The fund was established by a gift of \$1,000 from Mrs. Aurelia Mazzini, who also provided funds for the erection of a flag pole. The flag was given by Mrs. Arthur Redford in memory of her husband.



Dr. Maynard K. Hine (right center), Dean Ralph E. McDonald (left center), and Dr. Mitsushi Toyonaga (right, with shovel) all lent a hand during the planting of 20 Japanese cherry trees last spring near the southwest corner of the Dental School building. The trees were presented to the school by a dental study group from Fukuoka, Japan, led by Dr. Toyonaga, as a symbol of the bond of friendship between the dental communities of I.U. and Fukuoka. Dr. Ray K. Maesaka was host to the 20 dentists in the group, who attended a one-week course in Fixed and Removable Partial Prostodontics at the School.

The Bookshelf

Helen W. Campbell, Librarian

Miracles do occur. We witnessed one this summer when the Library remodeling project was completed on schedule. As the students left the Library at 1 p.m. on Wednesday, May 5, to take their last examination for the Spring semester of 1976, a crew of workmen began demolishing walls to renovate our area. The project was completed by August 16, which allowed the Library Staff one week in which to move the furniture and 13,000+ books back into the Library and prepare for the beginning of School on August 23. Fortunately the Basement and the major portion of the journal collection were untouched in this project. When a Library moves into a new facility and the move requires only the manpower to transfer the books from the old location to the new, you have one set of problems. We faced an entirely different situation! We had to move those 13,000 volumes out of the Library and we had nowhere to go. Obviously, it is necessary to have more than an ordinary size room in which to put 70 sections of bookcases even for empty storage. But what do you do with that many books which must be available for daily use by the Faculty and the Graduate Students who are counting on the lighter case load in the Clinics in the Summer to give them time to work on their theses.

Those of you who graduated since 1960 will remember Classrooms 114 and 115, and the counters in front of the chairs on each riser. By using many book ends, we lined up the monographs from left to right, in double rows on top of the counters, starting in the back and progressing down to the front of the room. We didn't weigh the books, but we produced some interesting (?) statistics concerning shelf space needed to house them, i.e.: We have 231 feet of books on dentistry in the Black

classification, 366 feet in the Dewey classification, 72 feet of Indexes and 81 feet of Reference, not to mention 48 feet of IUSD theses.

The photograph accompanying this article gives a view of Room 115 from the Hall doors, and shows the journals formerly housed in the Main Reading Room, lined up on the periphery of the room. The risers were 42" wide, which enabled us to place one three-foot wide book case on each and gave us 294 feet for those volumes. Two staff members had desks in the back of the room on the hall level. The reserve books and the audio-visual materials were stored in the alcove which usually housed the projection equipment. The card catalog was also on this level, and the front of the classroom beneath the projection screen was set up with two videotape machines and color TV monitors, one carrel equipped with a Carousel projector, and five study carrels.

The remodeling of the Library was accomplished in two sections. A construction wall was built down the center of the West Hall and the area of Rooms 122 and 124 renovated first by tearing out some of the non-weight bearing walls. When this area was completed, two staff members and the Reference and Index collections moved into 124, and all the filing cabinets and book cases were stored in 122. At that point, the demolition began on the Michigan Street side. The walls of the Browsing Room and the "Blue" room with the staircase to the basement were knocked out, and all except two supporting columns of the north wall of the Center hall were demolished. With walls reconstructed and painted, floors carpeted, ceiling dropped, smoke sensors installed and all areas air-conditioned, we used the week between

August 16 and 23 for the move back from the classroom.

Staffing was one of the problems during the summer. The Cataloger and Circulation Assistant were located in Room 115, the Librarian and Order Assistant in Room 124 and the Typist and Serials Assistant in the basement where 22,000 volumes of journals remained. All circulation records were in Room 115, and all journals to be returned to the basement were hand-carried down the Stairs by the Shelver because the book lift was unavailable. The three areas had to be monitored at all times and regular service maintained for the 72.5 hours we are open each week.

We are still not completely settled for there is much equipment yet to be delivered—new stacks, tables, chairs, etc. However, we are pleased with the physical remodeling and delighted with the increased student use of the study areas. The next issue of the Alumni Bulletin will contain many pictures to show the improve-

ments to all of you who cannot come by and see for yourselves.

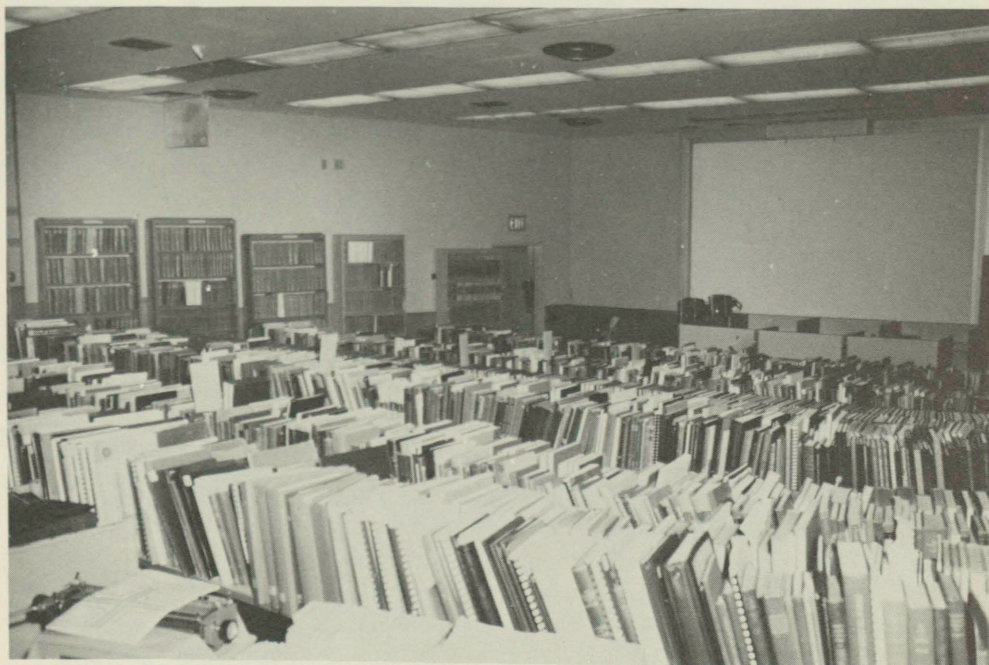
While all of the remodeling was being carried on, it was business as usual and the following theses, written in fulfillment of requirements for M.S. or M.S.D. degrees, were added to our collection:

ENZYMATIC DEGRADATION OF *IN VITRO* ACTINOMYCETES NAESLUNDII PLAQUE

David L. Alexander

Actinomyces naeslundii has been shown to form plaque and appears to be an important agent of human periodontal disease. This study was designed to provide information as to the nature of substances involved in the adhesion properties of *A. naeslundii* *in vitro* plaque.

Plaque was allowed to form on nichrome wires suspended in a complex medium supplemented with one per cent sucrose. Daily transfers into freshly inoculated culture tubes were made until sufficient plaque had formed. Wires containing plaque were dipped into sterile water to remove residual medium and incubated in an appropriate buffer solution containing one



Books stacked in classroom as temporary "library."

of the following enzymes: trypsin, protease, hyaluronidase, dextranase, alpha-amylase, neuraminidase, beta-glucosidase, alpha-glucosidase, beta-galactosidase, lipase, and phospholipase-A, for six hours at 37°C. Control wires containing plaque were suspended in the enzyme buffer solutions containing only buffer. Plaque degradations were recorded photographically. Effects of the four plaque-degrading enzymes on whole cells of *A. naeslundii* were analyzed by electron microscopy. Sucrose-cultured cells were washed twice with water and resuspended in buffer with enzyme at 37°C for six hours. Samples were placed on stainless steel grids and negatively stained with 0.5% phosphotungstic acid and viewed under the electron microscope.

Protease, trypsin, hyaluronidase and alpha-amylase were found to disrupt the *in vitro* plaque. Visual evidence of plaque disruption was confirmed with dry weight analysis. Electron microscopy studies revealed that plaque was disrupted by the enzymes' action on the cell wall and cytoplasm or on the intercellular cementing substance. At present the nature of the intercellular cementing substance is unknown; however, it does appear that the adherence between *A. naeslundii* possesses both a protein and an extracellular polysaccharide component.

PROPERTIES OF SOME ELASTOMERIC IMPRESSION MATERIALS

Haig G. Baltadjian

The following properties of several elastomeric impression materials were determined: consistency, permanent deformation, dimensional reproduction, dimensional stability, detail reproduction, compatibility with gypsum, compatibility with a basic silver cyanide plating bath, strain in compression, flow and the effect of two aqueous solutions upon the dimensions of the polyether material. Dimensional reproduction of impressions by silver electroformed dies was also observed.

The impression materials used were: one polyether (Impregum), a syringe and a putty type silicone (Xantopren Blue and Optosil), a syringe and a tray type silicone (Elasticon), a syringe and a putty type polysulfide polymer (Accralastic wash and Accralastic putty), a syringe and a regular bodied polysulfide polymer cured with a metal peroxide catalyst (Permlastic) and an all-purpose polysulfide polymer cured with an organic catalyst (Omniflex).

No one material was superior to the others in all respects. The polysulfides tested did not meet the requirement for consistency in the ADA specifications. Polyether and silicones were superior to the polysulfides in permanent deformation. All materials contracted continuously except the putty type polysulfide polymer, which elongated continuously. The silicones met the ADA requirement for dimensional change, but the polysulfides did not meet their respective requirement. The polyether material was su-

perior from a dimensional standpoint, although it swelled in water. All materials showed contraction from mouth to room temperature. All materials were excellent in detail reproduction, except the putty types which were not tested. All were compatible with Densite stone (Vel-Mix) and with the silver plating bath. The electroformed dies from all materials showed expansion, except those from Omniflex and Permlastic (regular), which showed contraction. Impregum and the putty type materials did not meet the requirement for strain in compression in the ADA specification; the others did. None of the polysulfides met the requirement for flow.

AN EVALUATION OF A BIODEGRADABLE CALCIUM ALUMINATE CERAMIC AS AN IMPLANT IN THE PARIETAL BONE OF THE RAT

Paul W. Bivens

The purpose of this investigation was to acquire information on the biocompatibility of a two-phase calcium aluminate ceramic and to evaluate its effect on the rate of bone mineralization *in vivo*.

Holes approximately 2 mm in diameter were made in the right and left parietal of 15 healthy, adult, male Wistar-strain albino rats weighing between 380 and 470 grams. In each animal calcium aluminate ceramic was placed into the right defect and the left served as a control. The animals were randomly divided into five groups of three animals. The groups were sacrificed at time intervals of 1, 3, 6, 9 and 12 weeks. Five days before sacrifice each group was given an injection of a 2% aqueous solution of Procion brilliant red H-8BS (a reactive dye known to label calcifying tissues). After sacrifice the calvaria were removed, decalcified and sectioned at seven microns. Alternate sections were stained with hematoxylin and eosin or mounted without staining for observation by fluorescent microscopy.

The results indicate that the ceramic is compatible with the body environment. New bone formation was apparent in the control and experimental defects as early as three weeks. In all groups the control defects appeared to heal at a more rapid rate than the experimental defects.

AN ANALYSIS OF POSSIBLE FACTORS AFFECTING THE SOFT TISSUE RESPONSE IN POSTADOLESCENT ORTHODONTIC PATIENTS

Richard E. Cowan

This study was carried out to evaluate the factors which may vary the soft tissue response in non-growing subjects. Pretreatment and post-treatment lateral cephalometric radiographs of twenty-nine postadolescent orthodontic patients were measured with a sonic digitizer using facial

plane as the reference. Stepwise multiple regression analysis was performed to select those factors from the original set of 6 according to the statistical significance of their contribution in the prediction of the soft tissue response.

It was found that 30.84% of the horizontal upper lip response is due statistically to the maxillary incisor change and the pretreatment upper lip thickness at the vermilion border. This study also revealed that 67.76% of the horizontal lower lip response is due statistically to the mandibular incisor change, the pretreatment upper lip thickness at A-point, and the mandibular postural change. Additionally, 16.50% of the vertical upper lip response is due statistically to the mandibular incisor change. Further, 33.39% of the vertical lower lip response is due statistically to the mandibular postural change and the pretreatment upper lip thickness at A-Point.

Finally, the majority of the total variation in lip response is still not accounted for and therefore further research is needed.

AN IN VITRO EVALUATION OF AN EXPERIMENTAL COMPOSITE RESIN

Augusto Ramon Elias

An experimental polyurethane composite resin which was reported to have some adhesion to enamel was evaluated with respect to its potential to serve as an anterior restorative material.

A battery of physical tests were performed on this experimental resin which were considered pertinent to its performance as a restorative material. The values obtained for the experimental resin were compared to those obtained for a widely used commercial composite resin.

The experimental composite resin was not superior to the commercial composite resin with respect to physical and mechanical properties. Although it is difficult to assess if differences in magnitudes observed with respect to strength, hardness, and water sorption would be reflected in clinical performance, past experience with enamel abrasion tests suggest that the experimental resin would be more susceptible to occlusal wear than the commercial resin.

The bond strength and marginal leakage tests show that this material does not adhere to either enamel or dentin.

INCIDENCE OF POST-OPERATIVE PAIN, FOLLOWING ONE APPOINTMENT TREATMENT OF PAINFUL PULPITIS WITHOUT APICAL RADIOGRAPHIC INVOLVEMENT

Carl J. Flatley

Fifty-five patients were treated for painful pulpitis with approximately one-half of the treatments being performed in one appointment.

Clinical and radiographic evaluations were carried out. A subjective questionnaire was also used to record responses.

Age, sex or position of the tooth in the arch played no significant role in predicting the post-operative sequelae. Duration of pain was unpredictable and there was no difference between the two groups. The severity did seem to be greater in the one-appointment cases.

No statistically significant difference in occurrence of pain existed between the one-appointment group and the multiple-visit group. However, in those having discomfort, relief could only be gained by analgesics and/or surgery. Thus, complete one-appointment endodontics is not advocated.

FROZEN, IRRADIATED, CANCELLOUS BONE HOMOGRAFTS IN RAT CALVARIA AS POSSIBLE GRAFT MATERIAL FOR PERIODONTAL DEFECTS

Edward F. Gonsky, Jr.

This study evaluated frozen, irradiated, cancellous bone homografts for possible use in treating periodontal osseous defects. Rat parietal bone defects were used for these reasons: 1) healing in rat parietal bone defects had been reported as similar to healing in certain periodontal osseous defects, 2) the sites could be operated aseptically, and 3) the parietal bones could be removed for detailed histologic analysis. Graft material was obtained from the femora of Sprague-Dawley-strain rats, immediately frozen, and irradiated by a standardized technique using gamma irradiation.

Fifteen Wistar-strain albino male adult rats were the recipient animals. Donor and recipient animals were of different strains to insure a true homograft relationship. Each animal was operated using Nembutal anesthetic. The head was shaved and the scalp swabbed with Zephiran chloride. An envelope flap, based anteriorly, was made over the calvarium to expose the parietal bones. A two millimeter defect was prepared in each parietal bone, using a slow speed rotary with a #8 round carbide bur. Sterile isotonic saline irrigation minimized thermal damage. A section of frozen graft material was fragmented with a curette and the small pieces were placed into the right parietal defect. The defect was filled completely. Primary flap closure was achieved using 4-0 silk sutures. Each animal received three days of antibiotic coverage.

Clinically, no postoperative complications were evident. Groups of three rats were sacrificed at 1-, 3-, 6-, 9-, and 12-week intervals. Five days before sacrifice each animal received an appropriate dose of Procion Brilliant red H-8BS in order to label osteoid formation. All calvaria were removed and prepared for examination by light and fluorescent microscopy.

Bone formation was found in the 3-, 6-, 9-, and 12-week animals. Control defects generally

showed more new bone than the experimental defects. Frozen, irradiated, cancellous bone homografts did not appear to be osteogenic or induce osteogenesis, nor did they appear to function as scaffolds for host osteogenic elements. Although healing in most rat parietal bones was affected by a combination of osseous and fibrous connective tissue, some control defects presented complete osseous healing.

In view of these findings, using rat parietal bone defects to evaluate graft materials must be considered questionable.

VITAMIN-FLUORIDE SUPPLEMENTS: EFFECT ON DENTAL CARIES AND FLUOROSIS IN SUBOPTIMUM FLUORIDE AREAS

David K. Hennon

This study was designed to determine if additional fluoride, ingested as a sodium fluoride-vitamin supplement would provide added protection against dental caries without causing any significant fluorosis.

A total of 456 children, one to 14 months of age, residing in cities having 0.6-0.8 ppm F in the water supply were randomly assigned according to age, sex and community to the following groups: Group A, 0.5 mg F to age 3 then 1.0 mg thereafter; Group B (control), vitamins throughout the study; and Group C, 0.5 mg F throughout the study.

Dental examinations were started at approximately 2½ to 3 years of age and were repeated every six months. A fluorosis examination ended the study after about seven years.

When compared according to length of time on product, Group A had a significant reduction in deft and defs of 42.2 and 47.1 percent at 60 months. Group C had a 32.1 and 37.4 percent reduction. When compared by age, Group A had a 37.5 and 44.8 percent reduction in deft and defs at 66 months. Group C had a 34.3 and 40.1 percent reduction for the same period. No significant reductions were observed in permanent teeth.

Based on the fluorosis index (Group A—0.250; Group B—0.033; and Group C—0.188) none of the groups had any unacceptable amounts of fluorosis.

The results indicate that up to 1.0 mg per day of additional fluoride does not cause objectionable fluorosis and may be ingested safely by children residing in areas containing 0.6-0.8 ppm F in the water supply.

ROOT CARIES IN PATIENTS WITH TREATED AND UNTREATED PERIODONTITIS

James O. Hix, III

Two groups of people were studied. One group of 120 subjects had received therapy for

moderate to severe periodontitis. The second group consisted of 124 subjects with moderate to severe periodontitis who had not received therapy. The treatment group was further classified as to the frequency of maintenance care. The presence, extent, and location of active and restored root caries lesions was recorded for all subjects in both groups. The presence of bacterial plaque at the gingival margins was also determined for all teeth in all subjects. The patients were then requested to complete a one-week dietary history so that the number of fermentable carbohydrate exposures could be determined.

Forty-five percent of the treated group were found to have either active or restored root caries lesions, while 58 percent of the untreated group were similarly affected. Within each group there was little difference in mean plaque scores between the subjects with and without root surface caries. In the treated group the frequency of maintenance had little influence on the incidence of root surface caries. The mean number of fermentable carbohydrate exposures per week was considerably higher for the individuals in each group that had active or restored root surface caries.

CARIOSTATIC VALUE OF RICE HULLS PROVIDED TO WISTAR RATS ALONE OR SUPPLEMENTED BY TOPICAL FLUORIDE APPLICATIONS

Tariq Javed

This investigation studied the effects of rice hulls on pit and fissure and smooth surface caries in the Wistar rat. The rats were randomized into eight groups, as follows:

1. I.U. Diet 500 (for pit and fissure caries).
2. I.U. Diet 500 + weekly APF topicals.
3. I.U. Diet 500 + 10% rice hulls.
4. I.U. Diet 500 + 10% rice hulls + weekly APF topicals.
5. McClure's Diet (for smooth surface caries).
6. McClure's Diet + weekly APF topicals.
7. McClure's Diet + 10% rice hulls.
8. McClure's Diet + 10% rice hulls + weekly APF topicals.

Groups 1, 2, 3, and 4 were sacrificed after 8 weeks, and groups 5, 6, 7, and 8 after 12 weeks. Caries was then scored by the method of McDonald and Stookey. Pit and fissure caries was reduced by 67% ($P < 0.001$) in group 3 by the effect of rice hulls alone, and by 92% ($P < 0.001$) in group 4 by the combined effect of rice hulls and weekly APF topical applications.

McClure's diet failed to induce smooth surface caries in the Wistar rat. Pit and fissure caries was reduced by 9% (not significant) in group 7 by the effect of rice alone, and by 84%

($P < 0.001$) in group 8 by the combined effect of rice hulls and weekly APF topical applications.

Rice hulls failed to reduce enamel solubility in Wistar rats which were fed a stock corn diet with 20% rice hulls added for 15 and 30 days.

Rice hulls were chemically modified by treating them with 5N HCl, 5N H₂SO₄, and 50% H₃PO for one week. It was found that the chemically modified rice hulls have good *in vitro* antiplaque and antibacterial activities. Neither the untreated nor the treated rice hulls had any effect upon the acid-forming ability of *Streptococcus mutans*.

It was concluded that rice hulls are highly protective against pit and fissure caries in the Wistar rat. Weekly topical applications of fluoride further increased this effect. On the basis of *in vitro* microbiological findings, it was speculated that this may be due to a partial suppression or alteration of the oral microflora of the experimental animals.

THE EFFECT OF LOCALLY APPLIED CALCITONIN ON CONNECTIVE TISSUE AND ON HEALING OF BONY DEFECTS IN RATS

Paul T. McDavid

This study evaluated the bone-inductive effect of locally applied calcitonin in connective tissue and on healing of experimental bony defects in rats. Forty male Wistar rats were divided into five groups, with three control and five experimental animals in each group. Experimental animals had Ivalon surgical sponges containing calcitonin in a gelatin vehicle implanted under the skin of the back and Gelfoam surgical sponges with calcitonin placed over surgical defects in the calvaria and tibias. Control animals were similarly treated except that the Ivalon sponges and Gelfoam sponges contained the gelatin vehicle only. The animals were sacrificed at two days and at two, four, eight, and 12 weeks. Histologic sections were prepared and microscopically examined.

The interstices of the Ivalon sponges in both the experimental and control animals were filled with progressively maturing connective tissue. There was no evidence of bone formation in association with any of the implants. The defects in the tibias appeared to heal at the same rate in both the experimental and control animals. Partial filling of the parietal defects with new bone was seen in all animals except at the two-day interval. No difference in the amount of new bone formed could be detected between the control and experimental animals, but individual variation was evident at each of the study intervals. It was concluded that calcitonin as used has no bone-inductive effect on

the subcutaneous tissue and no apparent effect on the healing of defects in the calvaria and tibias of rats.

VELAR HEIGHT AS A FUNCTION OF FUNDAMENTAL FREQUENCY

Charles M. Simons

An understanding of velar activity during vowel utterance has resulted from the use of several methods of study and observation. Both acoustic and perceptual methods have been used to describe velar activity. Acoustic characteristics have been related to nasality. Perceptual studies have enumerated variation in judged severity of nasality. Cinefluorographic techniques have been used to investigate the effects of vocal effort and fundamental frequency on velar movement. Intra-oral photographic techniques have also been employed to understand this relationship. Due to conflicting reports from the several techniques, the present study was undertaken to utilize a new approach of still cephalometric radiographs during sound production.

The purpose of the present study was to use a cephalometric procedure to investigate velar height and velopharyngeal gap as a function of fundamental frequency in normal subjects. Four levels of fundamental frequency (10%, 25%, 50%, and 75% of the subject's total vocal range) at constant vocal effort were performed by 11 normal adult males on sequences of the vowel /a/. Each subject was carefully trained to utter the vowel sound at each of the four pitch levels as computed by a Honeywell Visicorder. A V-U meter indicated constancy of vocal effort. A lateral cephalometric headplate was taken under each of the four vocal pitch conditions.

Velar height and velopharyngeal gap were measured by means of an acetate tracing from each headplate. The measurements were submitted for statistical interpretation.

Major findings included:

1. Tracings and measurements could be done accurately.
2. Vocal fundamental frequency productions were accurate.
3. Vocal effort could be maintained constant.
4. No significant difference between pitch levels for either velar height or velopharyngeal gap was indicated.
5. Highly significant differences in measurements of velar height and velopharyngeal gap were noted between subjects.
6. No significant correlation between 75% and 10% pitch levels was indicated by a Pearson product-moment correlation.
7. A significant correlation between 25%, 50% and 75% levels was evidenced.

(Continued on Page 101)

Alumni Notes

Cleona Harvey, 335 S. College St., Bloomington, In. 47401

Aloha! God has been good to us—we are in Hawaii in the heart of Waikiki and have been since June 28. We hadn't told anyone on the Island we were coming as we knew we couldn't take a reception committee until we had rested and rested and rested. I did call Dr. Walter Ching on Tuesday, as I had been told if anyone could find us an apartment he could. That evening he and Dr. Tom Barco came by with candy and nuts for Evelyn and a kiss for me! Dr. Barco was leaving on Thursday and he said he couldn't leave without seeing me and I was pleased, to say the least. He went back to Indiana for more schooling. They both looked wonderful, and Evelyn and I really felt happy! Sure enough, Dr. Ching found us a lovely apartment that we could afford within a block of all kinds of eating places, grocery, etc., Ali Wai Canal on one side of us and outrigger canoes are a pleasant sight. A beautiful golf course on the other side of the canal, and then houses all up the mountain side and when the lights come on at night it is just like fairyland. We are so comfortable we may never leave—my brother is taking care of the paper work on the properties (which are still in probate court) and Evelyn's sister is living in our apartment and keeping all the places rented and collecting the rent! Aren't we the lucky ones!

Dr. Ray Maesaka came over August 16 for memorial services for his father, Dr. Howard Maesaka, who died about a year ago. Mrs. Maesaka insisted we use her car as she doesn't drive, and Dr. Art Kamisugi's mother and brother brought it to us as they, too, live up in Wahiawa (center of the Island where Schofield Barracks is located)—also the pineapple country. They brought us a beautiful bouquet of flowers from Art and Lilly and

our front room looked quite festive. Then a few weeks ago we had a chance to buy a car from a boy who wanted to get back to the mainland to go to school. So the Kamisugis picked up Mrs. Maesaka's car—I knew Ray would need it—and returned it to her—and they brought us some pineapple and another plant from their flower shop. Art came by a few minutes one day with a beautiful potted Anthurium, so we are making out like mad bandits.

While Ray was here Art and Lilly Kamisugi gave a party for Ray and us last week (August 26) and we got to see many of my "boys" and their lovely wives in their attractive Hawaiian clothes. Dr. Ching and his wife took us and we sat in their front room a few minutes, and I have never seen anything as beautiful—he promised us a tour next time—not sure we can stand it!

Libby Kamisugi had prepared a delicious meal—mostly organic food—I did recognize the chicken, carrot sticks and a few others things, but I threw caution to the winds and even ate a small piece of banana creme pie—in Hawaii!

I talked to each of the boys and called the ones who were not there and here are the results of the telephone calls I made.

Class of 1928: Dr. William O'Hara is still practicing—his health is good; his wife is well also. He said he and Dr. Sakurai get together for lunch about once a month. I still remember the two of them coming out to see me when their class had their reunion in 1968, I believe it was. I hope to call on all the older men before I return to the mainland as they don't get out to parties and they were the ones who entertained us so many years ago.

Class of 1929: Dr. James Sakurai said they are still living in that beautiful home up on Tantalus in Honolulu but he isn't practicing. His wife is well and he said he visited Dr. Edwin not long ago. Edwin is living in Westwood, California and practicing periodontics in Torrance, California. He has two children, a boy and a girl.

Class of 1932: Dr. Nakamori is still practicing. He lost his wife this last year and since she died he hadn't kept up his orchid garden and he said it was chaos. When I was here in 1954 he sent back a box with 50 large beautiful ones to his friends at the Dental School and I remember a man on the plane from Chicago offered me \$200 for them but I wasn't tempted and the folks at the Dental School were pleased at receiving such beautiful orchids.

Class of 1953: Dr. Sanford Asahina is in general practice in Honolulu. He is married and has three children, two boys and a girl. He is a third generation dentist and thinks one or maybe both of his boys will be fourth generation. That would really be something! He says he is very busy, loves his practice and his family. His three sisters all married dentists! Sanford was in the service when we were here but his family certainly gave us the royal treatment. Mrs. Asahina knew the days were long for me as Evelyn was gone during the day so she made herself a committee of one to make sure I saw the "special" places in Honolulu, and only she could have opened some of the doors we entered. I was looking forward so much to seeing her again but she passed away this last year, so again I felt the sadness and loss of someone who was very special in so many ways. Sanford's father is still practicing some and Sanford promised to get his family together soon so we could meet them, sisters, husbands and all. That will be a treat but I shall miss the mother who seemed so sensitive to my loneliness and helped make Honolulu a place of enchantment for me.

Class of 1956: Captain John Williams is a career officer. He is Commanding Officer of the Dental Corps unit at the Kaneohe Marine Corps Air Station (which is on the windward side of the Island of Oahu). He is married, has two children, a boy and a girl. Unfortunately, he cannot attend his class reunion this year. By the time this news reaches you the September meetings will all be over. I am wishing I could be two places at once as I received an invitation to the September meeting yesterday! Such is life!

Class of 1960: Dr. Ray Maesaka lives in Indianapolis, Indiana and was here to visit his mother. He was his jolly self and admitted to the title of Director and Coordinator of Clinical Dentistry. He and his wife live at 6999 N. Pennsylvania Street, Indianapolis, and they have two boys. He told us his brother, Dr. Clifford Maesaka, is in Minnesota, married, has two children, and is doing very well in the practice of dentistry. Seeing Ray brought back memories of his father, Dr. Howard Maesaka, who never failed to send us pineapples whenever anyone came over to school or visit. He was one wonderful alumnus of I.U. and so proud of the school and always writing me about some young man he thought we should accept for dentistry. Of all the boys he recommended I only remember one who let him down. This young man came to I.U. in Bloomington and I counseled him many, many times, but he just couldn't make the grades. He finally admitted he liked to have fun and neglected his studies, but Dr. Maesaka and I tried! This island just doesn't seem right with him gone. He loved people and wanted them to be happy and enjoy life as he did. He was a bundle of energy, always doing six things at once and Ray said he was like that to the very end of his life. I.U. lost a great booster and I lost a very dear friend.

Also Class of 1960: Dr. Carolyn Sewell Yamaoka is practicing full time at Strong-

Carter Clinic in Palama. (There are two clinics now and the other one is in Kaimuki.) Her husband is a physician with the Army—Lt. Col. in fact—a neurologist—at Tripler Army Hospital which I think still bears the distinction of being the largest hospital the Army has. They have three girls and a boy.

Class of 1961: Dr. Ernest (Bill) Scheerer practices dentistry in downtown Honolulu. He is married but no children. He says he plays tennis every week, summer and winter! And why not? It's always summer here. I still remember the difficulty we had with his last name. We all tended to drop one "e" from it. I betcha his patients do, too!

Class of 1963: Dr. Walter Ching specializes in pedodontics in Honolulu. He is married and has two girls and two boys. He is the busiest man in Hawaii, I think, but never too busy to help a friend and has been wonderful to us.

Class of 1968: Dr. Ray Tanaka is in general practice in Pearl City, married and has three boys. Ray says he likes to play golf and practice dentistry and he seems quite happy about it all. Hawaii is really a happy place.

Class of 1969: Dr. Tom Barco was in Honolulu with the Navy and was one of two men selected by the Navy to receive a civilian residency in prosthodontics. He will be at I.U. beginning in the fall of 1976. Dr. and Mrs. Barco have a new son born April 6, Martin Thomas Barco III. We were so glad to see him before he left for the mainland!

Class of 1970: Dr. Arthur Kamisugi practices in Honolulu—he is an orthodontist—and spends one day with Dr. Ray Tanaka in Pearl City. He is married and has three children—2 boys and a girl. His family is very close and his father and mother and one sister and one brother with a friend from Oregon were at the party they gave for us. His wife, Libby,

is one good cook and we fell in love with her. She told us where we could buy the "sushis" (rice wrapped in seaweed) which Evelyn likes so much. They have a lovely home (way up on mountain side) and made everyone feel so welcome. We shall always remember their hospitality.

Also Class of 1970: Dr. Jerry Neidlinger practices in Honolulu. He was married in February of this year but he and his wife didn't get to the party. Perhaps we shall see them in January.

Also Class of 1970: Dr. Stephen Shoultz, married with two boys, is in general practice in Kaneohe, which is on the windward side of Oahu. He, too, is happy in his work as a dentist.

I could go on and on about Hawaii, but I won't except to say our permanent address remains 335 South College, Bloomington, Indiana 47401, so send your letters there and they will be forwarded if we are still here. We would like to escape Indiana's winter! If we stay we hope to see a lot of you in January, as Dr. Bogan writes that there is a tour group planning to come to Hawaii, which Dr. Ching had already told us!

And now I bring you news of the classes, which include quite a few deaths and a lot of change of addresses which had been accumulating, and some interesting letters. We begin with the

Class of 1912

Deceased: Dr. Oliver V. Kingery, Frankfort, Indiana, March 2, 1976.

Class of 1915

Deceased: Dr. James O. Blythe, Jr., Fort Worth, Texas, May 1, 1976.

Class of 1916

Deceased: Dr. Harry G. Jones, Carmel, Indiana, August 26, 1975.

Deceased: Dr. James H. Naus, South Bend, Indiana, April 19, 1976.

Class of 1917

Deceased: Dr. William A. Meyer, Greensburg, Indiana, March 3, 1976.

Deceased: Dr. Fred W. Leavell, New Castle, Indiana, June 11, 1976.

Class of 1918

Deceased: Dr. Claude E. Pierce, French Lick, Indiana, April 9, 1975.

Class of 1921

Deceased: Dr. Cecil E. Gilger, Rochester, Indiana, January 31, 1976.

Class of 1922

Deceased: Dr. Blanton A. Coxen, Indianapolis, Indiana, May 19, 1976.

Class of 1924

Deceased: Dr. E. Scott Lahr, Dune-din, Florida, July 24, 1975.

Class of 1925

Deceased: Dr. Jean Stout, Bluffton, Indiana, January 15, 1976.

Deceased: Dr. Paul M. Tanner, South Bend, Indiana, February 24, 1976.

Class of 1926

Deceased: Dr. Edmond N. Clark, Winter Park, Florida, January 8.

Class of 1927

Deceased: Dr. Floyd B. Fouts, Monticello, Indiana, June 15, 1976.

Deceased: Dr. Albert W. Hammelman, Poseyville, Indiana, October 9, 1975.

Deceased: Dr. Robert E. Hill, Muncie, Indiana, May 14, 1976.

We have received the following change of address for

Dr. Lloyd Maxwell Taylor
P. O. Box 80090
Indianapolis, Indiana 46208

Class of 1928

Deceased: Dr. Dwight F. Mathis, Los Angeles, California, December 8, 1975.

Class of 1929

Deceased: Dr. Roy P. Clark, Brownstown, Indiana, August 18, 1975.

Class of 1930

Deceased: Dr. Stephen Kirk Carpenter, Willoughby, Ohio, April 13, 1976.

Class of 1931

Deceased: Dr. Fred G. Heimlich, Indianapolis, Indiana, April 8, 1976.

Class of 1932

We have the following report from Dr. Harry Glass on the Class:

The Class of 1932 celebrated its 44-year class reunion with a luncheon at the Beef Baron Room of the Hilton Hotel in Indianapolis on Monday, May 3. The attendance was very satisfactory, considering the fact that our graduating class numbered 37; that about 23 survive, that eleven attended the luncheon. The following (in alphabetical order) were present: Dr. Harry Glass and wife; Dr. Ansel Ishler and wife; Dr. Ralph Kroot and wife; Dr. DeWan Killinger and daughter, Mrs. Zanoletto Miranda; Dr. Glenn Lake and wife; Dr. Adalbert Magyar and wife; Dr. William Milligan and wife; Dr. Kingston Raycraft; Dr. Kenneth Smithson and wife; Dr. Meredith Tom and wife; Dr. Lynn Vance and wife.

Mrs. Betty Raycraft did not attend due to another commitment. Mrs. Madeline Killinger passed away early in December 1975, a sad event which DeWan and our whole class felt very deeply.

Those who sent their regrets for not being able to attend were: Dr. Raymond Allison, Dr. Harold Archer, Dr. Robert

Durham, Dr. Walter Grupe, Dr. Donald Lee, Dr. Evan Steele and Dr. Charles Wylie.

We had a wonderful visit and with all the enthusiasm shown at the luncheon, the success of our 45th year Class Reunion next May in 1977 is assured!

Class of 1933

Deceased: Dr. Robert G. McKee, South Charleston, West Virginia, September 19, 1975.

Class of 1934

Deceased: Dr. Sidney J. Herman, Indianapolis, Indiana, September 3, 1975.

Class of 1935

Deceased: Dr. John Buhler. Dr. Buhler, organizer and first dean of the College of Dental Medicine at the Medical University of South Carolina and former professor at Indiana University, died April 18 at Charleston, South Carolina. A native of Marion, he was dean and professor at Emory University's School of Dentistry and had previously taught at Temple University before going to South Carolina in 1964.

Deceased: Dr. Samuel Grillo, South Bend, Indiana, February 17, 1976.

A change of address for
Dr. Pearl Arthur Schwartz
6284 Rucker Road, Suite G
Indianapolis, Indiana 46220

Class of 1936

Deceased: Dr. Warren A. Roll, Hamilton, Ohio, February 21, 1976.

Class of 1937

Deceased: Dr. Lewis G. Domonkos, South Bend, Indiana, November 29, 1975.

Deceased: Dr. Max Knierim, Speedway City, Indiana, January 9, 1976.

Class of 1939

Dr. Jack Carr wrote a report to the Class of 1939, from which I am pleased to quote:

The reunion last May had a small (but mighty) attendance. Undoubtedly the Saturday time was poor as the meeting didn't really begin until Sunday. As usual, Walt Vendes was there as were Eddie and Darma Young, Manny and Dorothy Green, Rutledge and Carr.

I sent an audio tape to Jerry Timmons recently and Mrs. Timmons answered saying Jerry enjoyed the news of our class, and that he sent his best regards.

Some of you may not know that John Buhler died April 18. I sent a card to his family and made a contribution to the cancer fund from our class. Mrs. Harry Healey, "Sammy", died about two months ago.

The classmates who have been neglecting correspondence were sent a double postal card; the only response came from Ralph Eastman who is retired (5 years) and enjoying golf five days a week; says he makes lousy scores. Ginny and Ralph have five grandchildren in New England but don't get to see them often. He sent his best regards.

Binkley wrote—they spent the winter in Florida near Fort Myers, planned to return to Indiana in May and expect to be at all the Fall Conference. I heard recently that he is considering reopening his office—can't stand retirement!?! Livingston wrote to say "hello to all"; Evangeline expected to be here but didn't make it—says she is working harder than ever. A note from Rosemary Prentice reported a nice vacation in the Canary Islands last January. The Prentices and Vendes' were on the IU Alumni tour to Cancun, Mexico last spring. Walt has some pictures he would like to show us. I heard that Wagner had some surgery last spring but don't have any details. John Campbell is a candidate for the Alumni Executive Board and John (Scotty) is still

active in dental politics. Wilbur and Margo Boren were expecting to go on the Alumni trip this fall but Margo fractured a hip and may not be able to go. She is still on a walker but doing fine otherwise.

At a retirement luncheon for Dr. Ronald Ping ('40) held recently I saw Harry Healey and Drex Boyd. They both look great; both Ron and Harry have retired but Drex is still working—don't know for how long.

We should plan for special recognition of these friends of the '39ers—maybe at the Fall Conference—a reception or a dinner. Arrangements for either should be made in the near future. Please send your suggestions soon.

Our 40th anniversary is approaching and we must plan for that.

Deceased: Dr. Weldon J. Lynch, Oakdale, Louisiana, December 25, 1975.

Class of 1940

Deceased: Dr. Albert A. Fodora, Indianapolis, Indiana, January 10, 1976.

Class of 1943 (August)

Dr. Gilbert LeVine Mellion
798 Old Main Street
Rocky Hill, Conn., 06067

was recently reappointed Chairman of the Connecticut Joint Dental-Pharmaceutical Committee. He has served as chairman since the committee was established in 1958. This committee recently published a "Prescription Guide for Dentists" which was distributed to the 2,000 practicing dentists in Connecticut. Mrs. Mellion (Nutritionist, I.U. 1942) continues to lecture with him on the relationship of nutrition to dentistry.

Dr. Mellion extended his best wishes for my health, and reported that this column is the first thing he looks for when he receives his copy of the Alumni Bulletin. (Dr. Mellion, as some advertisement says, "I needed that"; in fact, I have been thinking someone else should be doing this

column but your letter made me resolve to hold on a little longer! I really am happy you enjoy the "Notes."—Cleona Harvey)

Class of 1944

Dr. McDonald shared with us a letter he received from

Dr. Ray H. Anderson
2415 Pierce Street
Hollywood, Florida 33020

I am kept busy by my practice; I am a member of the American Academy of Periodontology, Academy of General Dentistry, A.D.A., etc.

I am being made a fellow of the International College of Dentists in Las Vegas in November . . . Peg and I came to Hollywood when there were 6,000 people—we now have about 175,000 people. I have served longer than any other dentist in the city—almost in the county. We have raised four daughters—the youngest is a junior in high school.

All of this makes me realize how old my wife is getting. I'm just getting a running start. Seriously, it has been great. The Good Lord has been generous to us—as has dentistry. We have had a happy life, traveled to Central and South America and Europe. The army took me to Korea and Japan as a major.

That's it—my life in a nutshell!

Class of 1945

Dr. R. E. Jennings
121 South Central Avenue
Idabel, Oklahoma 74745

reported that he has decided to leave full-time teaching and re-enter private practice. He is looking forward to starting a pedodontic practice but will do his utmost not to let it interfere with his fishing or his golf!

Class of 1948

Deceased: Dr. Joseph C. Nolan, Long Beach, California, August 25, 1975.

Class of 1950

We have received a change of address as follows:

Dr. Everett R. Amos
P. O. Box 246
Knox, Indiana 46534

Class of 1951

Deceased: Dr. Will E. Norris, Rushville, Indiana, November 20, 1975.

Class of 1953

We have received a change of address for

Dr. Cyriel Scherrens, Jr.
1731 Minturn Lane
Indianapolis, Indiana 46260

Class of 1954

Another change of address:
Dr. Theodore C. Clarke
7500 Callaghan Road, #238
San Antonio, Texas 78229

Class of 1959

The following change of address has been received:

Dr. Donald R. Nelson
8706 Spanish Moss
San Antonio, Texas 78239

Class of 1960

The following two changes of address have been received:

Dr. Dan Olson
P. O. Box 382
Columbus, Indiana 47201

Dr. Peter Randolph Reibel
4416 Fall Creek Parkway
Indianapolis, Indiana 46205

Class of 1961

We have received changes of address for

Dr. Burthal Cleveland, Jr.
5348 Wheel Estates, West Drive
Indianapolis, Indiana 46236

Dr. John D. Williams
434 NE Emerson
Bend, Oregon 97701

Class of 1962

And this change for
Dr. Larry Dan Jones
7514 Moulea Place
Honolulu, Hawaii 96825

Class of 1965

We have received these two changes of address:

Dr. Keith Higgins
Long Beach
2923 Loma Portal Way
Michigan City, Indiana 46360

Dr. John B. Schymik
2600 Knob Hill Drive
Evansville, Indiana 47711

Class of 1966

Deceased: Dr. Richard S. Baum, Evansville, Indiana, August 28, 1975.

Class of 1967

A change of address has been received for:

Dr. Thomas F. Pequignot
2102 Ardmore #127
Fort Wayne, Indiana 46804

Dr. Lawrence A. Warren
1161 Church Avenue
Corydon, Indiana 47112

Class of 1968

The following change of address has been received:

Dr. Phil J. Dupler
P. O. Box 68101
Indianapolis, Indiana 46268

Dr. (Col.) Robert K. Wettlaufer
1344 Tanforan Drive
Lexington, Kentucky 40502

Class of 1970

Dr. Dirk E. Anderson and Dr. Marcus E. Trombley have announced their association and the opening of their new office at

1144 India Hook Road, Suite A
Rock Hill, South Carolina 29730

We received changes of address for
Dr. E. Dean Harmison
703 President

San Antonio, Texas 78216

Dr. Roger L. Thompson
Route #3

Decatur, Indiana 46733

Class of 1971

We have received the following changes of address for members of the Class of 1971:

Dr. John E. Crimmel
848 First Avenue North
Naples, Florida 33940

Dr. Paul D. Hillis
2527 East Broadway
Logansport, Indiana 46947

Dr. E. Kent Fritch (M.S.D. 1975)
Deaconess Hospital Tri-State Cancer
Care Center and St. Mary Medical
Building
Evansville, Indiana 47715

We thought you would be interested in reading the following account by Dr. Arthur Roberts, Jr. (address 103 N. Morgan St., Rushville, Indiana, 46173) of his experience in Guatemala. He reports that he left Rushville on less than 24 hours' notice on Feb. 11 to be part of a 12-member paramedical team from the United States aiding earthquake victims in Guatemala's mountainous back country. The following report was in the Indianapolis News on March 22, 1976:

We did a little bit of everything—primarily treatment of the injured—people who had not been seen yet by any medical personnel. We also helped the government

with its damage survey . . . The places that were the most badly damaged were the towns. Of the places we went, the damage was either minimal or total—there was no in-between . . . The greatest number of injuries came from the tile they use for roofing. They look like half of a clay drainage tile, about a foot or 18 inches long. They just stack these, shelve them, onto the roof. They're not lodged there, and when the roof wiggles, they fall down through. Because of this, a room 10 ft. square may have upward of 3,000 pounds of tile roofing over it. When they cave in, they can sever an arm or smash a face, coming down from a height of 10 or 12 feet. He said the group split into two teams upon arrival and later subdivided again, leaving him working with three other doctors and paramedics.

We were given assigned areas of villages in the upcountry and when possible the Guatemalan army furnished transportation but for the most part we just walked from one place to another . . . We'd be out of touch from the other groups 2 or 3 days at a time. He said the most recent casualty count showed more than 28,000 killed and more than 100,000 injured. He said if necessary, "I'd go again tomorrow. I feel we did a lot of good."

Dr. Virgil Ullom
Box 90-B

Port-au-Prince, Haiti, West Indies, reported in his April Missionary Letter his 7-year-old son, Loren, had been having difficulty with his knee. After thorough examination, they were informed that he has a condition known as Perthes Disease, and this diagnosis was later confirmed by a specialist in Miami. The treatment is to avoid pressure on the affected hip joint for six months to two years. Periodic X rays will tell when the bone is completely healed. He has adjusted well to crutches; his leg is suspended in a sling to prevent stepping down on his foot. He has learned to run and play games in spite of the restriction, and the Ulloms believe firmly

the Lord has helped him to accept this with a good spirit.

Then in their June 1976 Missionary Letter they updated the information concerning Loren. Recent X rays show continued degeneration of the bone which is a normal pattern at this period . . . he hasn't any discomfort and continues to do well with his crutches. They are trusting that by the end of the year the disease process will be reversed and indications of new bone will be apparent.

Dr. Ullom reported that five years have passed since graduation from dental school and their going to Haiti. Of the many wonderful things that have taken place during this time, the highlight is an awareness of a closer relationship with the Lord. He said, *Five years ago we felt He would have us come to Haiti and today we feel our lives have been enriched because of being here.* They are returning to Miami and looking forward to seeing loved ones. (A letter reached me in Hawaii saying they would be in Bloomington Sept. 7 to visit with us and I had to tell them that of course was out of the question. I am so sorry as Virgil and Lea are workers for the Lord and a visit with them would have been so refreshing! C.H.)

Class of 1972

The following changes of address have been received:

Dr. David R. Lukosik
8628 Boundary Avenue, #1
Anchorage, Alaska 99504

Dr. Craig A. McEwan
Marquette Mall Office Bldg., Suite 394
Michigan City, Indiana 46360

Class of 1973

We received changes of address for this class as follows:

Dr. Michael C. Badell
6520 North 7th Avenue
Phoenix, Arizona 85013

Dr. Dennis W. Knierim
203 North Indiana Street
Mooresville, Indiana 46158

Class of 1974

Dr. Frank A. Kyle, Jr.
4118 Nottingham Trail
San Angelo, Texas 76901

Class of 1975

Mrs. Becka Snider, who took my place as Recorder and who has a new title "Director of Records and Admissions" (It sounds grand and I like it!)—wrote to all the 1975 Class members who were uncertain of their plans at the time of graduation and received the following goodly number of replies:

Dr. Julia Foster Armstrong
335 Vernal Avenue
Milton, Wisconsin 53563

Dr. Kirk W. Baldauf
USAF Clinic McGuire/SGO
McGuire AFB, New Jersey 08691
(home: 126-4 Kirkbride Rd.
Voorhees Twp., N.J. 08043)

Dr. Terence L. Boris (Captain)
122nd Med. Det. Box 59
APO New York 09710

Dr. James D. Clark
6744 Saranac Street
San Diego, California 92115

Dr. Randall S. Cory
Suite 211, Pickwick Pl.
Syracuse, Indiana 46567
(home: R. R. 3, Box 253A
Syracuse, Indiana 46567)

Dr. James Ehlebracht
1395 Sunset Strip
Fort Lauderdale, Florida 33313

Dr. Robley E. Evans
307 Arrowhead Trails
Bluffton, Indiana 46714

Dr. Stephen Gant, Capt., DC
90 Med. Det.
Patch Barracks
Vaihingen, West Germany
APO New York 09128

Dr. Joseph A. Guros
214 Park View Lane
Verona, Wisconsin 53593

Dr. Arlen R. Horsewood
11422 Hoagland Rd.
Hoagland, Indiana 46745
(home: 6806 Chadwick Drive
Fort Wayne, Indiana 46816)

Dr. M. Elizabeth Johns
14108 Castle Blvd.
Silver Spring, Maryland 20904

Dr. Michael P. Keenan
Health Sciences Center
P. O. Box 26901
Oklahoma City, OK 73190
(home: 2812 N. W. 59th, Apt. 209
Oklahoma City, OK 73112)

Dr. Bradford H. Korn
6726 Ashbrook
Fort Wayne, Indiana 46815

Dr. Mark E. Mallatt
6312 Bryan Drive
Indianapolis, Indiana 46227

Dr. Michael T. McCrady
P. O. Box 9
Albany, Indiana 47320

Dr. Max H. Middendorf
308 E. Walnut St.
Brownstown, Indiana 47220

Dr. Cecil D. Rhoads
870 Springhollow Court
Plainfield, Indiana 46168

Dr. Joel A. Sagalowsky
1619 West 86th Street
Indianapolis, Indiana 46260

Dr. Clay W. Stuckey
1326 L Street
Bedford, Indiana 47421

Dr. Delynn W. Stults
5448-B Brett Dr.
Fort Knox, Ky. 40121

Dr. Carl B. Vorhies
Park Royal Plaza
Mississauga, Ont. L5J-2B3
(home: 79 Keele St.
Toronto, Ont. M6P 2J8)

Dr. Vaughn M. Wedeking
4487 Roosevelt Blvd.
Jacksonville, Florida 32210
(home: 4301 Confederate Pt. Rd.
#221
Jacksonville, Fla. 32210)

Dr. Timothy John Worley
Capt. USAR, DC
Berlin MEDDAC
APO New York, N.Y. 09742

Becka Snider shared with us a letter she
received from

Capt. and Mrs. Richard A. Armstrong
308 52 0353
766th Med. Det. D.S.
APO New York, New York 09034

In a note from him, he says *my army assignment is located about 100 miles southwest of Frankfurt, Germany. There are 11 dentists in our clinic, attempting to provide health care for over 18,000 Americans . . . Our first year of European travels have been very exciting and rewarding and we're looking forward to our remaining two years. We have also added our third child to the family: Aaron Patrick, born July 14, 1976.*

Class of 1976

And believe it or not, we have some
addresses for the 1976ers! The ones we
have received are as follows:

Dr. Robert C. Batchelder
1001 North Ogden Place
Ossian, Indiana 46777

Dr. Allen R. Bond
3913 Lynn Drive #A
Anchorage, Alaska 99504

Dr. Ross M. Brady
711 Crestview Drive
Monticello, Ill. 61856

Dr. Gary J. Hinz
2552 North Admiral Rd., F.V.
Great Lakes, Illinois 60088

Dr. John W. Jones
165 Gilliam
Warsaw, Indiana 46580

Dr. Terry A. McCooe
7901 Baymeadows Circle E, #355
Jacksonville, Florida 32216

Dr. R. Scott Norris, Jr.
89 Park Ridge Drive
Mt. Vernon, Indiana 47620

Dr. James R. Nicholson, Lt.
U.S. Naval Regional Dental Center
Box 21
FPO New York 09521

Dr. Samuel A. Passo
9921 Bustleton Avenue, # H-2
Philadelphia, Pennsylvania 19115

Dr. Paul D. Phillips
8200 Palm Street #120
New Orleans, La. 70118

Dr. William M. Record
1010 Elm Street
Plymouth, Indiana 46563

Dr. Miles D. Schroeder
222 Gaslite Lane
Greenfield, Indiana 46140

Dr. Steven J. Shear
407 Oakwood Avenue
Jacksonville, North Carolina 28540

Dr. Kenneth Z. Taylor
5 Margo Court
Cromwell, Conn. 06416



Recipients of Robert Wood Johnson Scholarships for 1976-77 include the first year dental students shown above. Pictured with Dr. Ralph W. Phillips, Associate Dean for Research (left), and Mr. Donald Booth, Administrative Assistant (right), are the following, from left: Luis Loweree, Bernice Williams, Marianne Davis and Jacqueline Broadley. The Johnson Scholarships are for minority students, women, and students from certain rural counties.

DEAN'S DESK

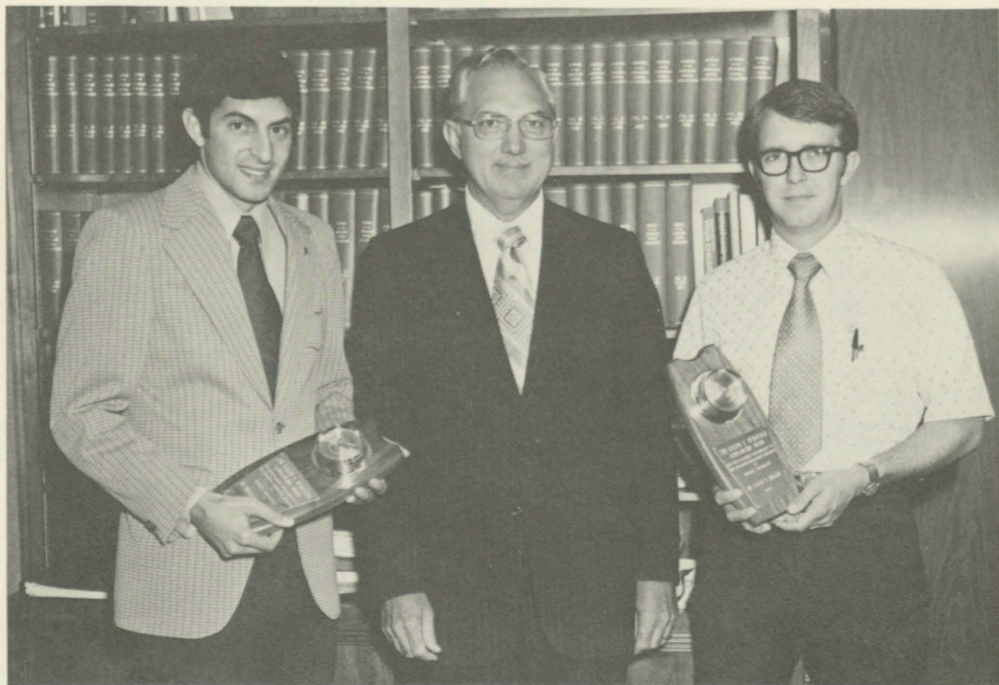
(Continued from Page 36)

campus to signify the bond of friendship that has been established between the dental communities of Indiana University and Fukuoka, Japan. The trees have been planted to the south and north of the new dental school addition and will add beauty to our campus particularly during the early spring months.

Mrs. Aurelia Mazzini, the owner of the College Inn property, has made a major gift to the School of Dentistry. The land on which the College Inn was located was given to the I.U. Foundation with the stipulation that when the land was sold to

the University the proceeds would go to scholarships and loans for dental students. The transaction has been completed and the Louis and Aurelia Mazzini Memorial Loan and Scholarship Fund has been established and will serve as a perpetual honor to the Mazzinis. Mrs. Mazzini also provided funds for the purchase of a flag pole for the School. The new flag pole is situated east of the School and adds to the dignity and beauty of the Dental School setting.

We welcome the opportunity to visit with our alumni. Please stop and say "hello" and learn first-hand what is happening at your Dental School.



Dr. Michael R. Johns (left) and Dr. Gayle V. Nelson, recipients of the Ralph McDonald Scholarships for 1976, are shown with Dean McDonald, of the Indiana University School of Dentistry, for whom the scholarships are named. Doctors Johns and Nelson recently completed their Pedodontic Programs at Indiana University, and the \$250 scholarships and plaques are in recognition of their outstanding records. Doctor McDonald founded the Pedodontic Advanced Education Program at Indiana and was the first Chairman of the Department of Pedodontics. The Indiana University Pedodontic Alumni Association established the Ralph E. McDonald Pedodontic Fund through the Indiana University Foundation in 1971. The fund is supported by contributions from alumni and friends. In addition to the Annual Scholarship Awards, the McDonald Fund subsidizes trips for graduate students to the annual meetings of the American Academy of Pedodontics. It also sponsors the McDonald Lectureships, presented at the Pedodontic Alumni Association Meetings by distinguished dental scientists.

HERPES VIRUS

(Continued from Page 14)

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PRACTICING DENTISTRY

(Continued from Page 22)

gradually eroded the freedom of choice, initiative, incentive and responsibilities of the British people, levying tax after tax, subsidizing this and that for election purposes or other motives, and gradually forcing State dependence. Egalitarianism of misery is the prize for loss of freedom and liberty. Since the beginning of this decade the average British worker is paying \$700.00 more per annum towards the Social Services. The budget of the Welfare State gets larger each year whilst the standard of the services declines. The total bill for Health and Social Services cost Britain more than six billion dollars in 1973/74. It appears that the average

working person is unaware that it is he/she who is the piper and should be calling the tune.

The sad truth has to be faced. Having given up a little freedom in 1948, or rather having been forced by political ideology and moral blackmail to relinquish freedom (to practice), it becomes impossible to reverse the process. Anyone speaking out against the system is put into the bracket of a "Capitalist," "Extremist" or worse because they happen to have different views from those of the ruling party.

Shaky Ground

The present Health Service is on very shaky ground. For the first time in British medical history, doctors have recently gone on one and two day strikes to protest the phasing out of Private Health Care in National Health hospitals. This freedom of work was allowed under the 1948 agreement. The shotgun marriage between the British Medical Association, British Dental Association and the State has finally landed on the rocks. Two possibilities might come about: 1) The Health Service might collapse, but this is unlikely; 2) with regard to dental care the average British person will become more dentally educated to demand better work. For this the patient is going to have to pay more; however, after nearly thirty years of State-run health care, most patients have come to expect to be treated for almost nothing.

Author's note: Since the writing of this article, certain changes have been made in the fee structure, but in my view these changes have, if anything, had an adverse effect on the plight of the practitioner.

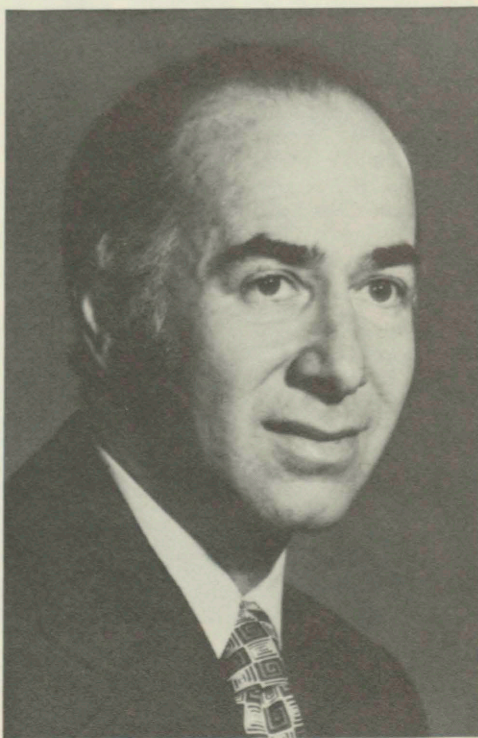
YODER VISIT

(Continued from Page 26)

elite group who have made the journey on foot to the summit of "Kili." Climbing the mountain is no small task. Much preparation and planning are necessary. The trip requires four days and Keith

confided in us that after their goal had been reached and they had taken in the total beauty of the African landscape from its highest peak and as far as the eye could see, both he and Karen picked out a glacier that seemed to offer the comfort and softness of a down-filled mattress and slept. Truly this is an accomplishment and an experience they will always cherish.

As you read this small update on the visit and progress of the Yoders and their African adventure they will have returned to Moshi and to the Medical Center, pursuing their current goals, happy with the realization that they are contributing to the welfare of others, and perhaps wondering if the next two years offer sufficient time to complete the task.



Dr. Daniel M. Laskin, professor and head of the department of oral and maxillofacial surgery at the University of Illinois College of Dentistry, Chicago, was installed as president of the American Society of Oral Surgeons at its 58th annual meeting in New York in September. Dr. Laskin is a 1947 graduate of the Indiana University School of Dentistry.

Teaching Committee Sponsors 12th Annual Conference

Ethics as applied to dental practice, dental education, education in general, and professional relations with the public was the subject of the 12th Annual Teaching Conference for more than 150 faculty members, students, and guests of the I.U. School of Dentistry at the Ramada Inn at Nashville, Indiana, on September 8-10, 1976.

Organized a dozen years ago by the Teaching Committee of the School of Dentistry to revitalize instruction, the retreat has become a unique tradition. "A very real benefit of the conference," Dean Ralph E. McDonald said, "is a boost in morale. Since nearly all faculty members are involved in it—besides helping maintain a faculty which knows how to teach as well as it knows what to teach—it also helps start the new school year with an esprit de corps, a real team approach to the dental school curriculum."

Supported by the I.U. Foundation and the School of Dentistry Alumni Association, in previous years the conference has explored such fields as objectives, evaluation, communications, teaching methodology, humanizing teaching techniques, and assessing teacher performance. Faculty members from the School of Education at Bloomington, as well as out-of-state participants, have been called on for leadership.

Speakers this year included Dr. John C. Buhner, vice-chancellor and dean of faculties, IUPUI; Dr. Maynard K. Hine, president, Federation Dentaire Internationale, executive associate of the I.U. Foundation, and former dean of dentistry; Dr. Leslie Parrott, president of Olivet Nazarene College, Kankakee, Ill., and Dr. James P. Vennetti, San Antonio, Tex., president of the American College of Dentists. There also were workshops for all registrants. Dean McDonald was honored at the annual Dean's Night banquet on September 9.

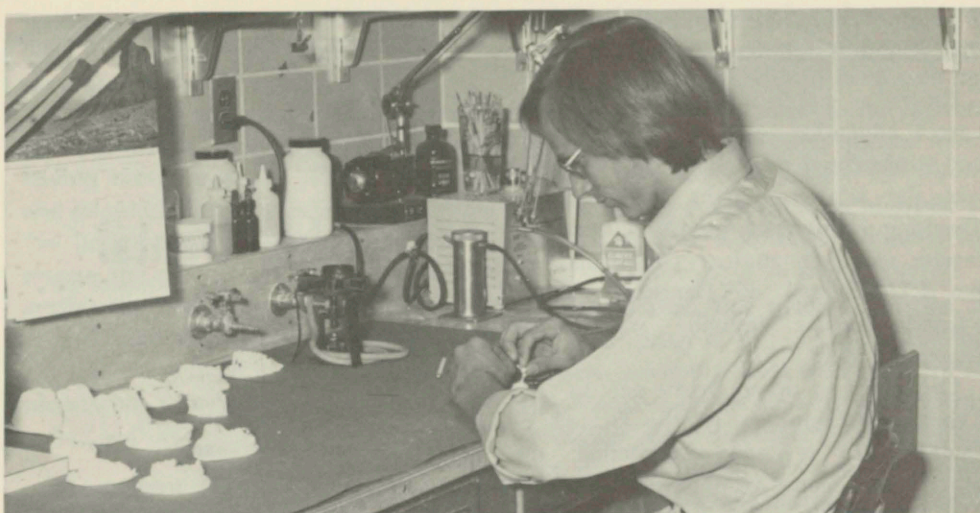
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Former Grid Star Chris Gartner, who established an I.U. field goal distance record of 52 yards and later played with the Cleveland Browns as a kicking specialist, is pictured at work as a laboratory technician in the Department of Orthodontics. A native of Gothenburg, Sweden, Chris was recruited by former I.U. coach John Pont when he was a high school student in Princeton, N.J. Chris set the distance record in the 35-34 win over Kentucky in 1972. He says that players hit harder in college but in the pros there is more striving for perfection and refinement of technique. In college a place kicker may take 50 or more practice kicks a day, but the pros tend to limit it to 10 a day to save the kicker's leg. He says one of the main qualities a kicking specialist must have is the ability to withstand pressure. Chris has been a full-time employee at the Dental School since last February and intends to apply for admission to the School next year.

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LIBRARY

(Continued from Page 84)

FLUORIDE UPTAKE BY ENAMEL FROM STANNOUS FLUORIDE AND PROPHYLAXIS PASTES

Philip Sokoloff

The purposes of this study were twofold:

(1) to determine whether applying zirconium silicate prophylaxis paste (containing nine per cent stannous fluoride) prior to topical application of 10 per cent aqueous solution of stannous fluoride would promote a significantly greater enamel fluoride uptake than when the solution was applied alone; and (2) to determine whether rinsing the mouth with tap water immediately after these procedures would significantly affect enamel fluoride uptake.

A modification of an *in vivo*, acid-etched enamel biopsy technique was used to measure fluoride and calcium contents of the outermost layer of enamel in first permanent molars and primary cuspids of 89 children. Four sites were biopsied prior to treatment. Treatments involved prophylaxes with a zirconium silicate paste either containing or not containing nine per cent stannous fluoride, followed by either a four-minute topical application of 10 per cent stannous fluoride in an aqueous solution or no such topical application. Some participants were instructed not to rinse for one-half hour; others were immediately offered unlimited quantities of tap water. Four other sites were biopsied one week after treatment; four more were biopsied two weeks after treatment.

Pre- versus post-treatment differences were measured via a fluoride-sensitive electrode and atomic absorption spectrophotometry.

Results were inconclusive. Enamel fluoride uptakes for most treatment groups appeared to be negative. Due to this seeming disagreement with the findings of many other investigators, and due to the very small numbers within treatment groups and biopsy sites, it was felt that uptake comparisons from group to group would be misleading. Tentative explanations for the unexpected results were offered.

A STRENGTH EVALUATION OF GOLD SOLDER JOINTS FORMED IN A FURNACE UNDER VACUUM

Declan Thompson

This study compared the strength of one eighth inch diameter cast dental gold rods with rounded ends soldered together, end to end, by three different techniques. A control group was soldered with a torch, one group was soldered in a porcelain furnace at atmospheric pressure, and another group was soldered in the furnace under vacuum. In each group there were eight specimens of Type IV gold to Type

IV gold, eight of ceramic metal to ceramic metal and eight of Type IV gold to ceramic metal. The rods were invested with a five thousandths of an inch gap distance, fluxed and soldered with .585 fine solder designed to flow at 1,440°F. A total of 72 joints were made and evaluated in a beam fracture test.

The fractured surfaces were observed at 40 X magnification and the modulus of rupture for each joint calculated. Voids were found in some of the joints but no correlation with joint strength could be ascertained. The data was analysed with an analysis of variance followed by a Newman-Keul sequential range test. One group of the vacuum soldered joints was statistically stronger than the comparable torch soldered group. For vacuum soldered joints, the Type IV gold to Type IV gold combination was statistically stronger than the Type IV gold to ceramic metal combination. It would appear that for all groups, the vacuum method produced joints which were as strong or marginally stronger than the conventional method.

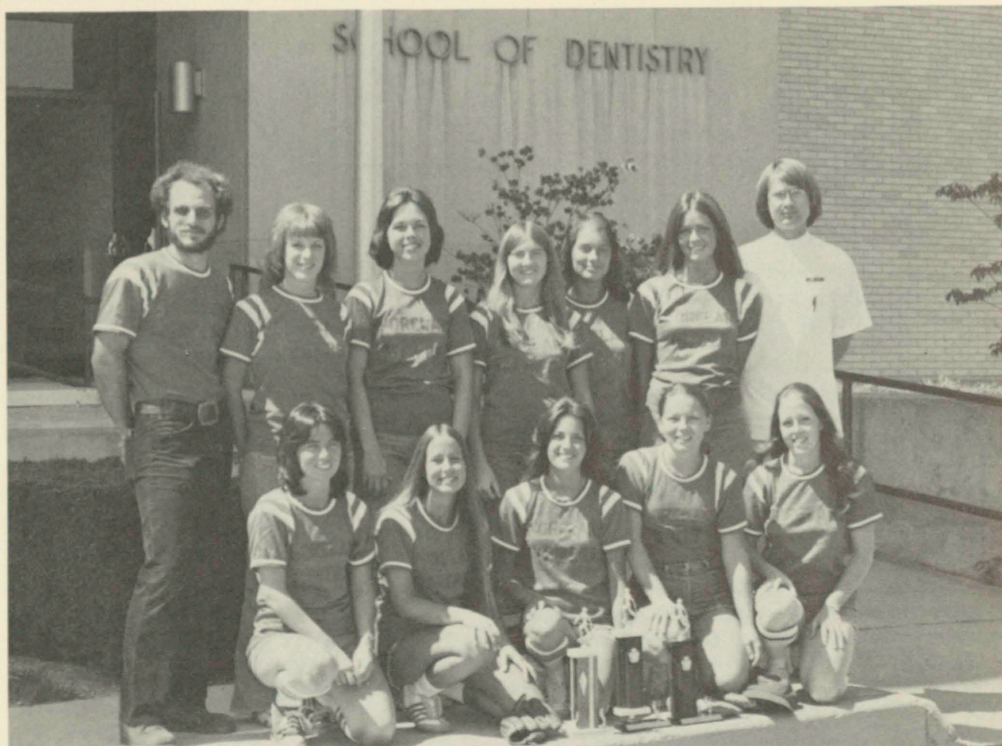
RETENTIVE AND SEALING PROPERTIES OF FLUORIDE-CONTAINING PIT AND FISSURE SEALANTS IN MONKEYS

Jon S. Wilkins

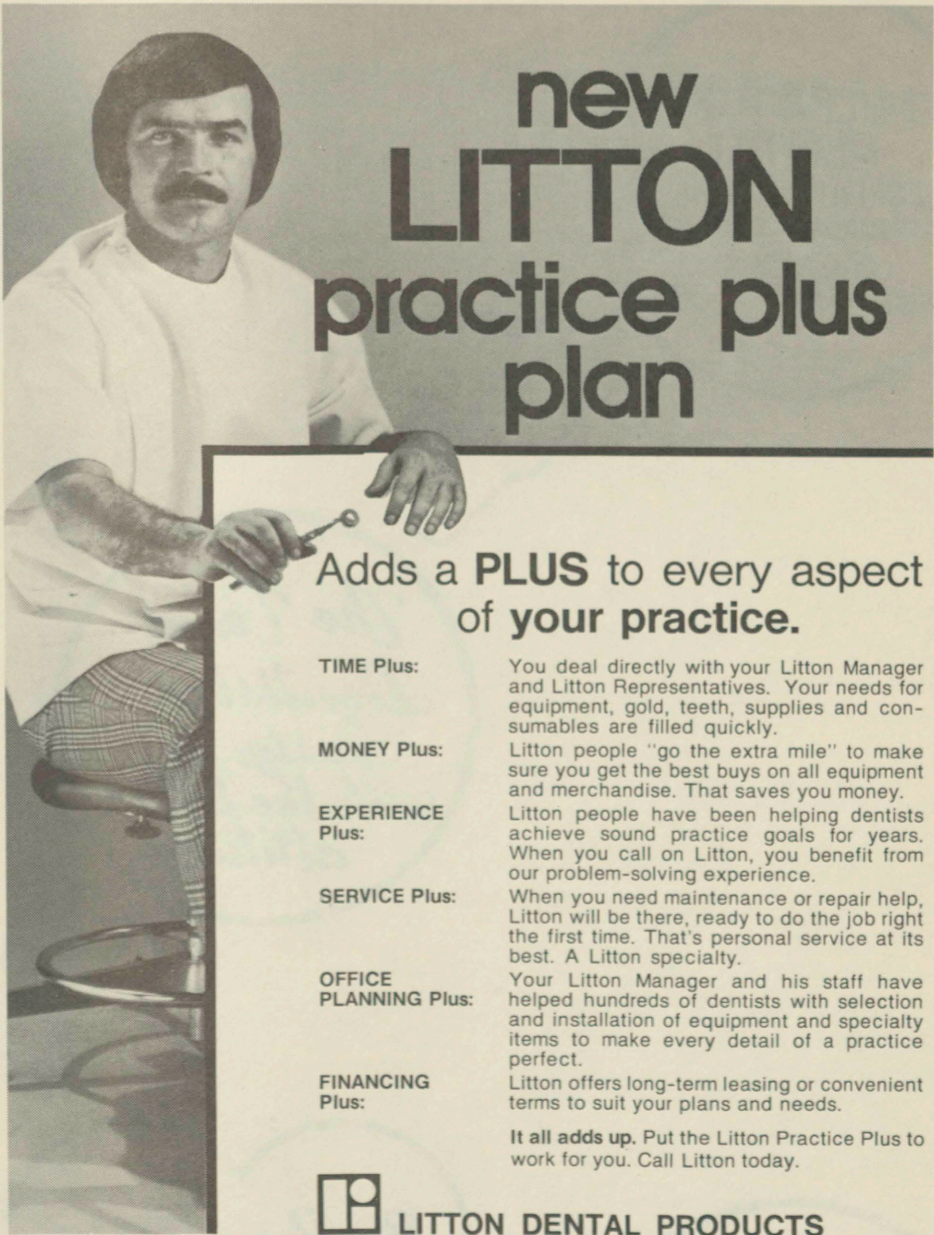
This pilot research evaluated the feasibility of studying the *in vivo* retentive and sealing properties of pit and fissure sealants in the *Macaque speciosa* monkey. Three BIS-GMA and one cyanoacrylate resin were tested both with and without the addition of 5% sodium fluoride, NaF. The teeth were evaluated at two and six months following placement of the sealant. Beginning two days before the teeth were extracted, the occlusal surfaces were swabbed *in situ* with a radioactive $\text{Ca}^{45}\text{Cl}_2$ solution for a total of two hours. The occlusal surfaces were examined microscopically for the amount of retained sealant. After longitudinal sectioning of the specimens, autoradiographs were prepared for the evaluation of micro-leakage.

Both the retentive and sealing abilities of the BIS-GMA resins appeared to be adversely affected by time in the oral environment. The cyanoacrylate resin was generally inferior to the BIS-GMA resins in both retentive and sealing qualities. The presence of fluoride did not appear to alter the retentive qualities of the sealants, and its effect on the sealing properties was inconclusive.

Problems which may have contributed to the impairment of sealant retention were encountered with the use of the *Macaque speciosa*. These included relatively rapid attrition of the teeth and an inability to accurately check for occlusal interferences on the newly applied sealant. The fact that this was a pilot study made the sample size small.



Pictured above with their coaches are 10 members of the IUSD girls' softball team who chalked up a perfect record of eight wins and no losses in the Indiana State Board of Health Softball League last summer. Sponsored by Shorelane Towers and coached by senior dental students Larry Widdicombe and James Herber, the team was composed primarily of dental assistant employees of IUSD. After winning the League championship trophy, they climaxed the season by sweeping their four post-season tournament games and collecting another trophy. Standing left to right are: Coach Widdicombe, Chris Barr, Peggy Lee, Diane Yates, Jamie Fields, Diana Hawkins, and Assistant Coach Herber. Kneeling are: Joan Andrews, Captain Debbie Tinnon, Diane Brock, Sally Phillips and Linda Newton. Not pictured are: Jan McCullough, Janette Knisely, and Bev Frey.



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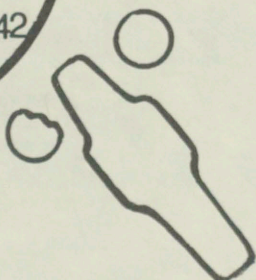
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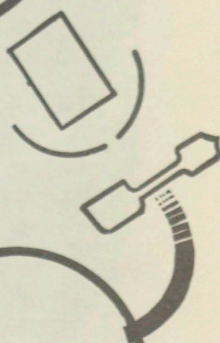
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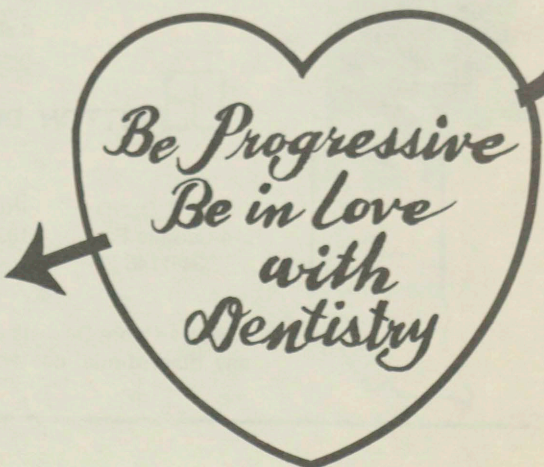
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