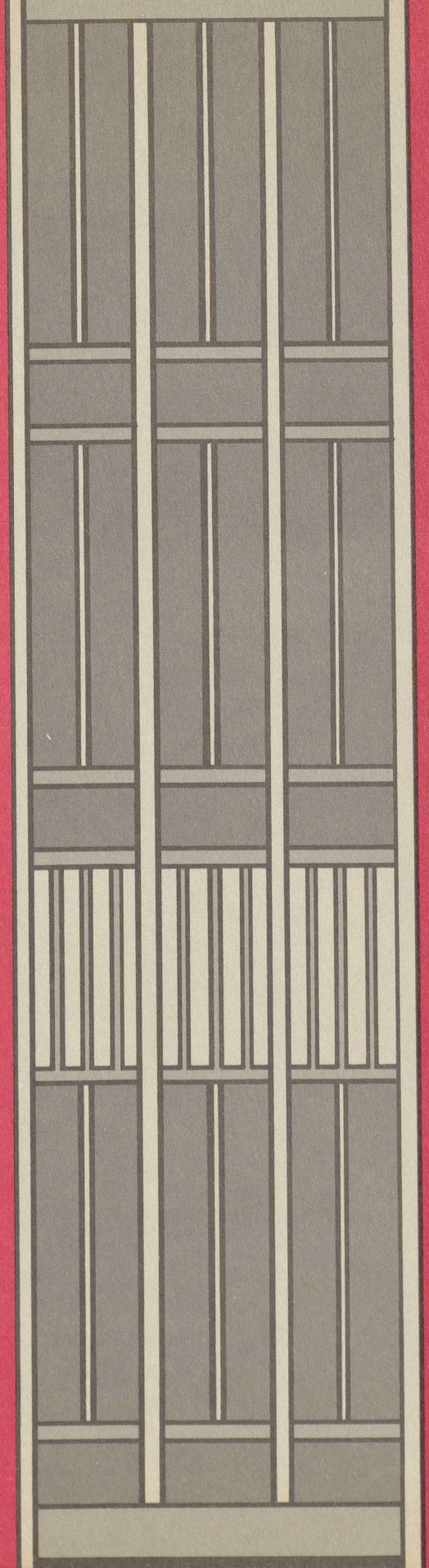
Alumni Bulletin

SCHOOL OF
DENTISTRY



Spring Issue 1977

Indiana University

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Indiana University School of Dentistry ALUMNI BULLETIN

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

Ethics of the Dental Profession: The Profession and the Public

*Dr. Maynard K. Hine**

The development of advanced professional ethics, and the steady growth of the professions guided by them, are commendable characteristics of the modern world. The professions are more numerous, more beneficial and more influential now than ever before. Since the motives and the conduct of the members of the professions have a marked impact upon the quality, quantity and the distribution of services given by the professionals to the public, a discussion of professional codes of ethics and their significance in the delivery of health services seems in order.

According to Webster's Third Unabridged New International Dictionary, the pertinent definition of the word "profession" is "a calling requiring specialized knowledge and often long and intensive preparation *including* instruction in skills and methods as well as scientific, historical, or scholarly principles *underlying* such skills and methods, maintaining by force of organization or *concerted opinion* high standards of achievement and conduct and committing its members to continued study and the kind of work which has as its prime purpose the rendering of a public service."

A "professional" has been defined as one who is engaged in one of the learned professions, such as theology, law, and the health professions. The word is also used to describe individuals who participate for gain or livelihood in an activty often engaged in by amateurs. Perhaps one should include a consideration of what is often called the oldest profession in the world. While this is not pertinent to a discussion of dental ethics or of delivery of health care, one might argue that it does have some relevance to ethical codes and a discussion of health *and* delivery.

Ethics and Justice

A history of the development of professional ethics follows the history of man's development of a concept of justice. It is tempting to discuss the historical aspects of this evolution in detail, for I found it to be most interesting and have read a fair amount about it. A short summary should suffice on this occasion. Many philosophers have discussed the emerging of man's moral conceptions and most agree that a desire for help from his neighbors apparently came first, then a willingness to aid his neighbors, with the hope that they would help him, next a longing for justice for themselves and gradually a willingness to accept justice for others, even at some sacrifice to themselves. (Very early in the history of thought, Aristotle (384-322 B.C.) gave much attention to the strange fact that man had an awareness that he "ought" or "ought not" to do this or that.) Consideration of exactly why people began to develop a conscience and a hope for justice for themselves and for others, leads one immediately into a study of religion. It is interesting that all of the world's major religions include some version of the basis for modern codes of ethics, namely, the well-known Golden Rule, "Do unto others as ye would have them do unto you." (Matt. 7:12, Luke 6:31.)

One of the earliest codes covering

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human behavior was that attributed to Hammurabi, King of Babylon about 2250 B.C. This code was really the law of the land, rather than a voluntary code of ethics, and consists of 282 short statements outlining how a man should act in relation to his colleagues. For example, "If a man steal a man's son who is a minor, he should be put to death." "If a man cut down a tree in a man's orchard without the consent of the owner of the orchard, he shall pay ½ mana of silver." Eight sections in this code refer to physicians' fees, and the punishment given one whose treatment fails. Incidentally, this code specified that the doctor's fee scale was to be graded according to the social standing of the patient. The 200th statement reads, "If a man knock out a tooth of a man of his own rank, they shall knock out his tooth." The 201st reads, "If one knock out a tooth of a free man, he shall pay 1/3 mana of silver." Similar statements are made regarding damage to other parts of the body.

Two Codes Compared

The similarity between some of the statements in the Hammurabi Code and the laws given the Israelites by Moses a few centuries later (1491 B.C.?) is also interesting.

For example, the Hammurabi Code includes the provision that, "If a man destroy the eye of another man, they shall destroy his eye" (#196); this can be compared with a statement in Exodus, "If any harm follows, then you shall give life for life, eye for eye, tooth for tooth, etc." (Ex. 21:23). Also, in both Hammurabi's Code and that of Moses, less severe penalties were assessed against a free man than a slave, although the difference is somewhat less in Exodus than in the older code.

The next noteworthy code written to guide the behavior of physicians was the well-known "Heathen Oath" generally ascribed to Hippocrates. This code, written about 350 B.C., asked physicians to follow it voluntarily. Hippocrates was not only an observant physician, but a man of high moral and ethical standards, and the oath bearing his name expressed his opinions. A study of it shows that Hippocrates' interest was both in protecting those practicing medicine and those individuals who sought medical care.

Why should an individual want to obtain professional status? Professionals demand and receive more independence, more recognition, a larger measure of autonomy in choosing colleagues, and sometimes a better income. The public accepts the concept that some combination of scholastic aptitude, ambition and financial means is required to become qualified to enter a profession, and that entrance into a profession requires attendance at a university.

Modern Codes of Ethics

A review of the modern codes of ethics approved by the official organizations of many of the professions indicates much similarity in their basic principles. A collection of codes of ethics of 133 occupations has been published but time permits a review of only dentistry. Incidentally, the various codes of ethics for those whose livelihood comes from religion were, surprisingly enough, vague and not at all strict. The code of ethics of the law profession, on the other hand, is extensive and detailed. I shall refrain from editorializing on this point.

I believe the public expects a dentist to have these essential attributes:

1. A high degree of generalized knowledge about general health and detailed knowledge about oral health and disease.
2. An understanding of recent developments in dental science. The public expects the dentist to be up-to-date, and since dental science is improving rapidly, some system of continuing education is required.
3. A primary orientation to the interest of others rather than the individual's interest. Those served usually cannot judge the necessity for or the excellence of the service given. The patient expects the dentist to

place the patient's welfare foremost in planning treatment. (He is expected to use proven drugs and materials, and complete the treatments in a reasonable time.)

4. An acceptance of the responsibility for the necessity and quality of his service. He is expected to possess good skill and use good judgment. He is expected to care for emergencies, or arrange for such care when he is unavailable.
5. A high degree of self-control of behavior. The public assumes that the dentist will be an ethical, professional gentleman. He must hold inviolate the patient's privacy. Many patients assume the dentist will be a respected member of organized dentistry and be involved in community affairs.
6. A fee schedule which will be equitable for both patient and dentist.
7. Assumption of some responsibility for developing methods of making at least the minimal services required to obtain and maintain oral health available to those who need and want them, regardless of nationality, race, color, creed, location, or economic status.

Incidentally, of all the professional codes I reviewed, the ethical considerations for the legal profession spelled out most exactly the lawyers' responsibility to make their services available to those who need them. Canon 1 states that a lawyer should assist in maintaining the integrity and competence of the legal profession, and includes the following comment:

"A basic tenet of the professional responsibility of lawyers is that every person in our society should have ready access to the independent professional services of a lawyer of integrity and competence." (Report of the special committee on evaluation of ethical standards, page 7, Code of Professional Responsibility, American Bar Association, 1969.)

Added Responsibilities

A consideration of the ethics of the dental profession as it relates to the public should include two additional attributes. One of these concerns the responsibility we must accept for the conduct of human research. Of course many aspects of routine dental treatments have a tinge of research involved. No one knows for certain how well some special treatments will serve a patient. The old adage, "Be not the first to try the new, nor yet the last to cast aside the old," is sage, age-old advice.

In clinical trials designed to determine the effectiveness of a therapeutic agent or procedure, much consideration should be given to both legal and ethical problems. The Department of Health, Education and Welfare has established definite and rigid regulations which require *dual* review of research projects involving humans, one by the institution and one by DHEW. The concept of "informed consent" by the participants is now firmly established. and incorporated in research studies when applicable. An investigator who proposes research studies among children must document that the risk to health is minimal and that the benefit far outweighs any risk involved.

Another responsibility the dental profession should accept is taking the lead in educating the public about the value of oral health, and of procedures which can be recommended to obtain and maintain it. I may be stretching a point to include dental health education of the public as an ethical responsibility, although I personally consider it so. Certainly if public health education is done improperly it is *unethical*. For example, the American Dental Association has ruled that a dentist who permits his name to be used in a dental health education pamphlet to be distributed to the public at large by a commercial firm is engaged in unethical conduct.

Should Dentists Advertise?

Recently the established code of dental ethics regarding advertising has been challenged. On a return trip from the East recently, I was interested in reading TWA's giveaway Ambassador Magazine which included an article entitled "Who's Regulating the Regulators?" The author, a William Hoffer, pointed out that so-

called bureaucrats in Washington are invading many industries and professions. In 1937 the Federal Register printed 3400 pages of governmental regulating commands. By 1973 this figure had jumped to 35,591 and in 1975 to 60,221 pages. Someone counted that there are now 24 major governmental regulatory agencies which employ 105,000 persons and spend $3.8 billion annually to police virtually every aspect of American life.

We have all been aware of—and more or less concerned about—these regulatory agencies which have checked the drug industry for years, as well as automobile manufacturers, food processors, and many, many others.

Recently the "regulators" have been branching out into the field of professional ethics, particularly as regards advertising. The Federal Trade Commission is attacking restrictions in advertising of prescription drug prices and eye glasses, holding that consumers have a constitutional right to know such prices. Also, there is a proposed rule by the Federal Trade Commission which would permit such professionals as physicians and attorneys to advertise their services, and their fees. An antitrust complaint filed by the FTC against the American Medical Association charges that the AMA's code of ethics violates Federal law by banning advertising, and thereby restricts competition among physicians. The American Dental Association's bylaws contain a similar prohibition, and there seems little doubt that any rules applied to medicine will soon affect the practice of dentistry.

These actions are part of what appears to be an ongoing campaign by the FTC to strike down state laws and professional codes that block professionals from advertising the nature and price of their services.

It is interesting that about 100 years ago advertising of dental services was considered acceptable. Dr. G. V. Black, the father of American dentistry, carried an announcement in the Jacksonville Register which would be considered unethical today. However, in the last fifty years, advertising by dentists has been limited to a few entrepreneurs who ignored the restrictions that had been placed on advertising by organized dentistry. Philosophically, advertising of fees is not defensible, because it is not possible to quote a price for dental care which would be applicable to all patients. If the dentist were to be chosen just on the basis of an advertised fee, the result would not necessarily be best for the patient. Also, in the past, dentists who advertised were usually those who couldn't attract patients in any other manner, or were interested in "quantity" rather than quality dentistry.

Continuing Education

As mentioned previously, dental practitioners have an obligation to *continue* their education to improve their competence and understanding of oral disease and health and keep their technics modernized. Also dentists have the responsibility of encouraging dental societies and dental schools to provide the kinds of continuation programs that will meet the needs of the practitioners.

The Commission on Medical Malpractice (established in 1972 by Elliot L. Richardson, then Secretary of Health, Education, and Welfare) recommended in 1973:

> that states revise their licensure laws, as appropriate, to enable their licensing boards to require periodic registration of physicians, dentists, nurses and other health professionals based on proof of participation in approved continuing education programs.
>
> The concern for the periodic re-evaluation of the practicing health professional's ability to provide competent health care is real. Some states already have implemented legislation that requires health professionals to participate in continuing education activities for relicensure. Legislation mandating participation in continuing education is in effect for dentistry in California, Kansas,

Kentucky, Minnesota, North Dakota, and South Dakota.

Although a provision recommending establishment of a national licensing program under which licenses would have to be renewed every six years was removed from the amended health manpower bill (S3585), this area is now regarded as fair game by legislators and it is entirely possible that such provisions will be reintroduced in subsequent legislation.*

Teaching of Dental Ethics

Since this is a teaching conference, I would like to discuss the question, "Can dental ethics be taught?"

Every thoughtful dental teacher is eager to have his pupils develop into knowledgeable citizens who contribute to the building of a better community, in addition to becoming competent, ethical practitioners of dentistry with a desire to help advance the profession. How can this be assured? Dr. Lovett, lecturer in ethics in Baltimore College of Dental Surgery, divided the ethical development of a dentist into three stages.

The first stage, from childhood to graduation, is characterized by an idealism instilled by the home, the school and the church, but untested by the tremendous forces of the world of business.

In the second stage, during the first few years of practice, the young dentist's idealism is put to a most severe test because of terrific economic pressures, or the fear of financial problems. I have noted this stage beginning in the clinical years in dental school where students experience pressures to complete clinical requirements, sometimes at the expense of idealism. It is in this stage that his whole future ethical development is at stake.

The third stage, professional maturity, is characterized by a blending of youthful idealism and practical experience. Usually by this time the dentist has established his practice and acquired the professional attitude which will guide him throughout his professional career.

Character Formed Early

Please note that the first stage includes years before the individual begins to study for his profession. Such qualities as intellectual honesty, a desire to achieve perfection rather than settle for mediocrity, a sense of social responsibility, cannot be taught in dental school. True, these essential attributes to ethical behavior can be reinforced and perhaps activated, but the basic ethical qualities of a practitioner are present long before the student can be given a course in dental ethics. This places heavy responsibilities upon the admissions committees of dental schools.

In summary—ethics can and should be taught in dental schools. Students should be given a short history of the development of ethics, as well as an understanding of the code currently in effect.

The question, "Can ethics be *learned* by dental students?" is a more difficult one. Those qualities that make a dentist "ethical"—intellectual honesty, a sense of what is right, a desire to serve patients unselfishly—are part of the incoming dental student's character. They can only be reinforced in dental school.

Summary:

The dental code of ethics is now well formulated, and followed by a majority of the dental practitioners. However, forces outside of dentistry may make it necessary to modify the code of ethics. Changes which might result in a lowering of the quality of dental care must be resisted.

The public expects the dental practitioner to conduct himself and his practice following the "Golden Rule," placing the patient's welfare ahead of his own interests. In the long run, what is best for the patient is also best for the dentist, and for the dental profession.

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* From Opinion Clearinghouse, JADA Vol. 92, June 1976 p. 1119, Paul R. Francis, DDS, Chicago, "Competency of health professionals: an approach for continuing education."

A World of Contrast and Transition: Papua New Guinea

*Monique Michaud**

When I was still in Indiana, the thought of going to Papua, New Guinea was especially troubling to me. The National Geographic Magazine had been the source of much of those worries: cannibals, head hunters, tribal wars. I had eagerly checked the U. S. Air Force Survival Manual for information regarding snakes: of those found in PNG seven are violently venomous! Tropical disease textbooks had provided information on the dreaded malaria, leprosy, yaws, donovanosis, and all the parasitoses and infectious diseases imaginable in the tropics.

There are hundreds of films which make you sweat with their heroes who live near the equator: The Bridge on the River Kwai, The African Queen, Tarzan, etc. . . . And of course at I. U. Dental School many Faculty Members were in the South Pacific or PNG at one time or the other. To name only a few, Drs. Borman and Marlin and Professor Barton were all very descriptive in reviving their memories of this part of the globe.

Such was PNG to me before I set my foot on the world's second largest island, Greenland being the largest and Australia being considered a continent rather than an island.

After six months in PNG I wish to summarize my impressions of this remote and beautiful land. Being a dentist, I am used to looking at a rather "restricted" field, but I hope that I will be able to impart to you my enthusiasm about this island paradise and to tell you a little about the new dental school here. But first some comments about the country . . .

* Dr. Michaud (M.S.D., 1976) and her husband, Dr. Edward Shields (D.D.S., 1970), are both members of the dental faculty at the University of Papua, New Guina.

Prune-like Topography

The island is occupied by two countries (West Irian and PNG), and is about 750 miles long by 300 miles wide. From now on I will restrict my comments to the eastern side of the island only: PNG. The island area is divided into Lowlands and Highlands, with the altitude varying from 0-15,400 feet above sea level. At the seashore, beaches, rocks and reefs share the coastal line. Close to the shore the land is composed of huge marshes. In some other areas of the Lowland the best comparison I can make of the topography is that it resembles a giant prune (wrinkled rolling hills cover the whole surface). The hills are covered by dense tropical forest (luscious greens grow all over). To travel only a few miles can take several days of laborious walking. Interposed between the Lowlands and the Highlands is a spectacularly broken area with deep valleys and vast stretches of jagged mountains ranging an average of 8000 feet. This in-between area has its own fauna and flora, and the flora is highlighted by a bewildering variety of orchids.

In the Highlands, hills similar to the foothills of Wyoming occupy the vast majority of the territory. These hills were formerly covered by forests which have been burnt down to permit gardening. Nowadays Kunai grass (6 foot tall, hard and sharp as sword blades) covers those hills. Here and there springs up one of those colossal peaks: Mount Victoria, Mount Wilhelm, and Mount Gilluwe, all around 14,000 feet high.

Population Isolated

Because of topography the population has remained isolated. Villages are often established on top of a hill or on a ridge.

Dense forests in many instances prevented communication with areas only five or ten miles away. Villagers had neighbour relationships (pacific or belligerent) with a few close villages but did not extend their contacts any farther than that. Because of this situation *700 languages* (not dialects) developed and further separated the people from one another. Similarly varied racial types developed, so much so that the Papuans can distinguish and segregate the individuals of one area from the individuals of the other. The construction of roads, when and where possible, tends to diminish the language barrier and the tribal animosity tends to be less marked.

The Coastal people are rather tall, 5 feet 6 inches and up, and have curly hair. The Coastal women have their bodies absolutely covered by geometrical tattoos. The Coastal men's dress is a LAPLAP (piece of cloth) that covers them from the waist to the calf. The Coastal people are somewhat related to the inhabitants of other South Pacific Islands.

The Highlanders are a lot shorter group. It is frequent to find men under five feet tall (they made me feel like a giant). They are in no way related to pygmies. Their short stature is the result of poor protein intake: the children of the Highlanders that are brought up on the coast attain a height of 5'5" or more. The Highlanders look very fierce. When you meet them on the trail, you sure thank God that pacification occurred a few years ago . . . They are a breed of very strong and rugged people. In many districts the people still wear the simple traditional dress of leaves, grass and natural fibers covering the sex only. Skin color is one of the greatest variables in the Papuans. Albinism is very frequent and well accepted; it is also enhanced by the fact that intermarriages of albinos are encouraged. In the general population, skin pigmentation also varies radically from light brown to ebony black. This very dark coloration of the skin indicates that people come from Bougainville Island. Hair color is variable, and this is one of the most amazing findings. It ranges from very pale for the albinos, to blond, auburn, red, brown and black for the rest of the population. Blond and red hair are not rare: this depigmentation of the hair is believed to be related to nutritional deficiencies and genetic inheritance.

Learning Languages

To alleviate the language problem, Papua New Guineans have developed a common language called Neo-Melanesian Pidgin which uses a lot of words derived from English, German and Portuguese Melanesian mixed with numerous words from the different Papuan languages. In addition, most Papuans speak 4-6 languages: learning a new language is one of the regular mental games of every Papuan. This is done at night when the extended family (husband, wife, grandparents, uncles, cousins and more) gather around the perpetually burning fire.

The Papuans are not industrialized the way we know the term, but I must say that they are industrious. They have managed to survive on a land where rainfall very often would ruin crops. Rainfall in PNG varies from a few inches a year up to 1000 inches. It may rain 60 to 360 days a year depending on the area. The arrival of European explorers during the 17th century caused diversification of the agriculture: pineapple ,pawpaw (papaya), banana, coconut, coffee and sweet potato were introduced then. Now the daily staple depends largely on sweet potato (kaukau, which is white, slightly sweet and greatly different from the U. S. sweet potato), yam (different from the U. S. yam), manioc and taro (other types of tubercles).

The pig is an important factor in the Papuan diet and economy. A man's wealth is still largely measured by the number of domesticated pigs he owns; the bride's price is still mainly paid by the groom in a number of pigs to the bride's family. Pigs which are reared as members of the house-

hold are eaten only occasionally at times of village celebrations (SINGSING). This is quite understandable since there are no means of meat conservation in PNG outside of the major centers where there is electricity. Pigs are slaughtered in similar ways from one village to the other, with slight variations. The most spectacular killing that I witnessed resembled a hunt. The pigs were confined to a closed area and were pierced with bamboo arrows. Then the animals were slowly bled. After they fainted they were killed by being clubbed on the head with an axe. The sound of the bone crushing was quite hard to listen to impassively. It was a bewildering experience . . .

Varied Architecture

Architecture varies greatly from one district to the other. In some instances the huts have open walls and have only a roof shelter: this type of hut is often built on stilts and it is found in the warmer areas of PNG. In the Highlands, where it nearly freezes at night almost all year round, the houses are closed and have only one opening in the woven palm wall for the door which is kept shut all night (remember that the fire is kept going all night, so after a couple of nights in those huts you smell like a hickory smoked ham). Huts are either round or square and their size may vary considerably. Most of the huts in the Highlands are about six feet high: this requires that you be free of rheumatism to be able to enter the three foot high door . . .

Papua New Guinea has been independent from Australia since September 1975. At this point the country is facing modern needs that were formerly of little concern. There exists in PNG a tradition that obligates the WANTOK (people of one common language) to take care of the needs of their own people in every respect. This is easily applicable in the remote village settings. But as PNG is entering the 20th century as we know it in North America, more and more people migrate to the main centers where the WANTOK system is hardly practiced. Thus the National Government is now facing new problems: welfare, unemployment, alcoholism, old age groups that are not looked after. Every imaginable social problem is quickly arising and assuming huge proportions.

Population Problems

In the traditional way of life, men and women did not share common quarters; it was also forbidden by tradition to become pregnant as long as the youngest child was still breast feeding. This was an excellent way of controlling overpopulation. Nowadays this part of the picture has also changed. In the city environment, men and women share housing, and thus are producing offspring at closer intervals. Overpopulation of the main centers will soon be a major social problem in the urban areas. But it is impressive to see how much the government is concerned with overpopulation: vast campaigns of information on birth control are carried on and the use of birth control measures is highly encouraged.

Transition is also occurring at the level of alcohol consumption. Unlike many South Pacific people, Papua New Guineans never had their "Home Brew." Alcohol was introduced by the Expatriates (that is the way foreigners are referred to) at the end of the last century. The money made either from a paid job or by sales of crops (coffee, for example, yields 100 Kina —$130.00 per 100 pounds) is mainly invested in beer. This phenomenon occurs both in the main centers and in the small villages where there is a road. Beer made in PNG is very good (believe a connoisseur). It is also strong: 12% alcohol. When a Papuan drinks, one beer follows the other: he is a chain drinker. So now the Government is planning legislation to lower the alcohol content of beer made in PNG. Speaking of beer, I have to mention

that the Papuans open their beer bottles with their teeth.

A Male Paradise

PNG is a paradise for men. In this country, it is the women who do the hard tasks. They tend the gardens and carry the heavy loads. It is a common sight to come across a man and his three wives on the trails. The man walks placidly in front with his bow and arrows on the shoulder, as his wives follow with their BILLUMS (huge hand woven bags which can contain up to 50 pounds of goods and are carried on the back while most of the weight bears on the strap that is put across the head —see accompanying picture).

Because PNG still lives, for the most part, according to the ways of 100,000 years ago, it has attracted researchers in every field of human study including anthropology, linguistics, agronomy, genetics, and medicine. You may remember that in October 1976 Dr. Carleton Gajdusek won the Nobel Prize in Medicine for his research on "kuru." Dr. Gajdusek spent 19 years studying the people of the Fore area of the Okapa Sub-Province of the Eastern Highlands Province. Kuru was rather puzzling because of its high incidence before 1950 in that area. At one point, scientists believed that kuru was genetically transmitted. But it took the patience of Dr. Gajdusek to put together the social patterns of this population and the incidence of kuru. Kuru was more frequent in women than in men. The explanation turned out to be that women were participating more in cannibalism and human brain eating (the reservoir for the etiologic agent of kuru is the brain). Children were also frequently affected and this was due to the fact that the children were accompanying their mother in those "festivities." Since cannibalism was banned in the 1950's, the incidence of kuru has drastically dropped and the disease is expected to burn out. Dr. Gajdusek hypothesized and proved that the "laughing disease" (kuru) which is also a paralyzing disease is due to a slow-virus dwelling in the brain.

Challenge Beckons

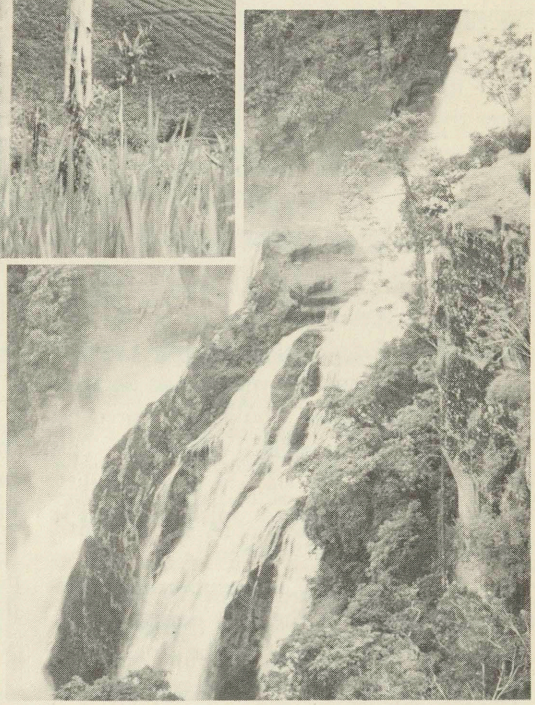
Other people came to PNG because of the challenge of helping a new country to become autonomous. Participating in the establishment of a dental school granting a university degree in a developing country is an experience in many respects!!!

First, the students' backgrounds are quite unusual. Many come from areas that are almost completely isolated. They often come from villages without electricity, living on low-scale gardening, tending pigs, surrounded by traditions of the Stone Age. Although the students have a great talent for languages, they do experience some difficulty with scholarly English. This difficulty is not due to the complexity of English as a language. As noted earlier, most Papuans speak five or six languages, and when they learn this many languages, they become aware that the concepts of one language have understood equivalents in other languages. But when they learn English, it is not only a new vocabulary that they learn; they must also adapt themselves to a language dealing with 20th century realities for which very often they have no corresponding terms in their cultural environment. This is especially disorienting in the technical fields. If you have no equivalent in your own life for the meanings of automation, speed, chemistry, etc., how do you relate to it all? For example, some students may have no idea of what orange, pink or purple color means although there are plenty of flowers of these colors in PNG; so such a situation may complicate teaching (in histology for example).

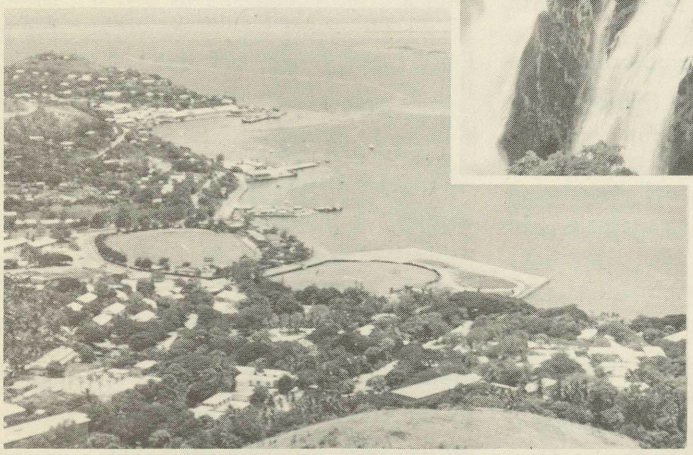
The pre-university education is also quite poor for preparing the students to deal with the sum of knowledge they must master over four or five years in the university. The students have an average of 10 years of school before entering the university. This is remarkable when we

A rural vista.

A scenic waterfall.



Port Moresby's harbor.



Dr. Michaud and friends.

remember the socio-economic background of PNG. But we also have to keep in mind that there is no comparison between these 10 years in school and the same number in the USA, I would say that students entering the university have an educational background comparable to grade seven or eight in the USA. Yet the students who enter the university must get a degree and go on to become the leaders of this country!

Complex Administration

Second, the training of dental officers and dental therapists used to be the responsibility of the Public Health Department (PHD). But last year it was decided that a B.D.S. degree would be granted by the university to dental students. The dental therapists are still the responsibility of the PHD only. So administratively it is a rather complex situation.

In February 1977, a temporary clinic should be ready in the new dental school for the clinical training of the five fourth year dental students who will graduate in 1978. The dental patients will be coming from two sources. The great majority will be off-the-street patients. We also have complete cooperation of the medical staff of the general hospital to do rounds on their hospitalized patients and screen them for oral diseases.

The curriculum of the dental school is mainly divided into three categories: Oral Diagnosis/Oral Medicine, Restorative Dentistry, and Oral Surgery. We are now trying very hard to promote oral diagnosis and oral medicine which in our case comprises radiology and pathology in addition to diagnosis. We think it is of major importance since dental therapists take care of most restorations and simple extractions. The dentist will be in charge of all therapists and we feel that the dentist must primarily be a diagnostician. In PNG, the general practitioner of dentistry is also the oral surgeon. Fractures of the lower two-thirds of the face are commonplace here, since disagreements are often settled with fists and beer drinking does not stop the Papuans from driving. Setting those fractures is the responsibility of the dentist.

Cases Cited

I cannot say much about the types of patients we have since we will really start the clinic in February 1977. Up to now I have been called in consultation for some of the hospitalized patients: one case of chondrosarcoma of the maxilla, a few cases of cancer of the oral mucosa with or without osseous involvement, one case of idiopathic thrombocytopenic purpura, two cases of acrodermatitis enteropathica and two cases of atypical facial neuralgia. I have already reduced a couple of facial fractures. In the coastal area of PNG, cancer of the oral cavity is very frequent since the habit of chewing the betel quid (betel nut, slaked lime with or without papper and the bark of piper betel) from the age of 4 to 5 years old on is almost universal.

I presently attend a leprosy clinic and try to learn to identify this protean disease: leprosy is endemic in PNG. Certain districts may have as many as 7,000 leprous patients. But now leprosy is not as bad socially since it was observed a few years ago that the treatment proved to be more efficient if the patients are allowed to remain in their familiar environment during their extended treatment. This has also encouraged early diagnosis and early treatment with the result that the spread of leprosy is better limited.

The university of PNG encourages research and I have been granted research funds to study the head and neck and oral manifestations of leprosy. Over the next year I will spend two months in the most affected area of PNG: the District of Karimui.

So this is a brief overview of the general situation of the dental school of UPNG. Hopefully it will continue to improve in

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Ethics in Dental Practice: Doctor and Patient

*James P. Vernetti**

When I was first contacted to speak to this teaching conference on "The Ethics of Dental Practice, Doctor and Patient," I felt that the assignment would not be too difficult. After all, I had been in civilian practice for 38 years, had built a fine practice and had had an excellent relationship with most of my patients. My intention was simply to tell that story, but as I began to research the subject I came to the conclusion that the assignment encompassed much more than that, and now I am sure of this fact.

Public opinion polls demonstrate an increasing lack of confidence on the part of the public about the professional and personal integrity of all professionals-politicians, lawyers, physicians and members of our own profession. This fact should make each of us aware that there is no substitute for *competence* and *personal integrity* in a profession. Codes of ethics can establish guidelines which are valuable. However, they are no substitutes for personal character and dedication to the proper discharge of professional duties and responsibilities.

Professionalism in the true sense involves a concept of unselfish service to others and requires adherence to a code of ethical conduct of the highest order. A professional is a person who not only possesses superior knowledge and skill but also applies this expertise for the welfare of the individual who needs his services. A true professional is committed primarily to his patient's wellbeing and will not exploit the patient's need for personal gain.

President Ford, in a press conference, was asked this question soon after assuming office: "Do you plan to set up a code of ethics for the executive branch?" This was his answer: "The code of ethics that will be followed will be the example that I set."

Professional Obligation

What he was saying is that any code of ethics is only as good as the extent to which the members comply with its precepts. The preamble of the Principles of Ethics of the American Dental Association says in part: "The maintenance and enrichment of this heritage of professional status places on everyone who practices dentistry an obligation which should be willingly accepted and willingly fulfilled. This obligation cannot be reduced to a changeless series of urgings and prohibitions for, while the basic obligation is constant, its fulfillment may vary with the changing needs of a society composed of the human beings that a profession is dedicated to serve. The spirit and not the letter of the obligation, therefore, must be the guide of conduct for the professional man. In its essence, this obligation has been summarized for all time and for all people in the Golden Rule which asks only that "whatsoever ye would that men should do unto you, do ye even so unto them."

Now that we have established a basis for true professionalism, let us approach more specifically the subject which has been assigned to me—the relationships of doctor and patient.

The public's image of our profession is primarily that of a dentist at the chair. He acquired this unique position through

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a system of selection, education and licensing. What he says and does in his own operatory, when multiplied by similar activities of thousands of colleagues, will retain dentistry's status and ethical prestige. This constitutes grass roots public relations.

Making Referrals

It is also well for a dentist early in his career to become aware that he can neither know everything nor develop enough skills to solve every problem. A dentist must try to attain objectives in any particular case through a compromise between knowledge, ability, and judgment. When it appears that the services of a specialist are in order, a true professional will consider the wellbeing of the patient to the fullest by making such a referral. The success of a professional is not defined by wealth, prestige or even expertise but rather in terms of his ability to apply technology and his integrity. The hallmark of a true professional is integrity.

Arnold Toynbee, the famed historian, defines the meaning of life thus: "That man should live for loving, for understanding, and for creating." In the broader sense these could be interpreted as responsibility, respect, and knowledge, and how applicable these three virtues are in our daily dealings at chairside!

Responsibility is often thought of in terms of the fulfillment of duty, but in its true sense responsibility is the willingness to respond to the needs of another human being. Professionals must be free to make that response with integrity. *Respect* implies the absence of exploitation and the appreciation of the feelings of one for another. Respect should be extended to rich and poor alike. *Kncwledge* is characterized by knowing what one knows and also knowing what one does not know. A true professional, especially at the chair, must remain humble, kind, compassionate and considerate. When one does that, he places himself in the patient's shoes.

Doctor-Patient Relationship

Unfortunately the many pressures of private practice—high office overhead, high standard of living, multiple employees, threat of malpractice, to name a few—tend to destroy the good doctor-patient relationship which was more prevalent in years past. Why? Perhaps because the practitioner feels that there is not time to stop and be friendly. The old family doctor was rarely sued because so often he became a friend of the family—someone whom no one would ever want to hurt.

Dr. Walter C. Alvarez, a noted columnist, tells how people who have fallen ill write him about how they resented being rushed to a hospital where nowadays all the work is done by nurses' assistants, and often the patients feel as if they have given up all their human and legal rights. Some say they felt as if they were not quite human beings. Could dentistry be heading in this same direction? You be the judge.

Dr. Alvarez added that a woman complained to him that she, a college graduate, has come to hate her doctor because he treats her as if she were a moron or a coward; he gives her a prescription, but he won't talk to her. She said wisely that a doctor's reticence and unwillingness to give more information can be many times more frightening than reporting a serious diagnosis would have been.

An Office Incident

This lack of communication brings to mind an incident that occurred in my office. Mary B., a registered nurse and a very talkative one, was a patient of mine for many years in Coronado. She and I had a beautiful and harmonious relationship and she was a great booster for the office. Mary's husband was a captain in the Navy and in time they were transferred to the Northern California area where she developed some minor medical problems. She found a competent physician but after several visits she was still completely in the dark as to her medical difficulty. One day

she cornered him as he was trying to hurry from the consultation room. She told him of her unhappiness at not being told what was wrong but the climax was when she said "My dentist in Coronado, Jim Vernetti, gives me 'talking time' for which I am glad to pay. Will you please do the same?" The physician was taken aback for a moment, then burst into laughter. From that day on Mary got her "talking time" at each appointment—and everyone was happy. Are we in dentistry also overlooking this important virtue—that of communication?

Serious consequences can result from a lack of confidence by the public. This problem is often sparked through a lack of personal feeling by the dentist who may appear to be functioning in an impersonal atmosphere of hurriedness. When the sparks are fanned into flame by overzealous lawyers, the problem can be difficult indeed.

Knowing the Law

Codes of ethics have been established by dental organizations as a guide to its members. These are voluntary controls—not laws—and the standards imposed are usually higher than those required by law. The policing of this code should be handled within the profession. Therefore it behooves each professional person to be well acquainted with all aspects of the code of ethics of the particular organization—and with the law as well. Publicity about malpractice has made the public aware that suits can be won, and with the contingency propositions by some attorneys sizeable judgments have been rendered to the benefit of the patient. Juries as a rule lean toward the plaintiff because they feel that the insurance companies will pay the cost and not the doctor. Now, however, with the tremendous publicity that has developed, the public is becoming more aware that in the long run they are the ones who will "foot the bill" to a great extent. The problem of malpractice insurance is a very real one and the solution difficult. There is ample evidence that people will sue at the slightest provocation and as a rule will come out with some kind of settlement. Insurance companies have tended to settle for minimal amounts, often covering doctor bills and personal expenses, rather than go into a long and costly litigation. This, too, has tended to encourage more lawsuits.

So it seems that a professional person finds himself controlled by a code of ethics established by his profession and by a standard set by the law of the state, and to this he must add his own personal code of ethics, which we shall discuss later.

Criticism of Others

Much has been and can be said about criticism of dentistry which has been poorly performed. What dentist, at one time or another, has not found himself in a position of having to inform a patient that a series of restorations must be replaced? Naturally the patient has to be curious about the reasons for the replacement. How easy it is to fall into the trap of blaming the previous dentist for poor work, or on the other hand of automatically defending another dentist. Each situation needs to be evaluated as to the extent of the damage done by the negligent dentist.

I always felt uncomfortable in trying to live by the old Code of Ethics of the ADA which stated in Section 8, *"Unjust Criticism and Expert Testimony,"*

> The dentist has the obligation of not referring disparagingly to the services of another dentist in the presence of a patient. A lack of knowledge of conditions under which the services were afforded may lead to unjust criticism and to a lessening of the patient's confidence in the dental profession. If there is indisputable evidence of faulty treatment, the welfare of the patient demands that corrective treatment be instituted at once and in such a way as to avoid reflection on the previous dentist or on the dental profession. The dentist also has the obligation of

> cooperating with appropriate public officials on request by providing expert testimony.

This same section under the Principles of Ethics revised as of January 1, 1976 brings, in my humble opinion, a more sensible and realistic approach to this sticky problem. Here is what the new revision says:

> The dentist has an obligation to report to the appropriate agency of his component or constituent society instances of gross and continual faulty treatment by another dentist. If there is evidence of faulty treatment the welfare of the patient demands that corrective treatment be instituted. The dentist may provide expert testimony when that testimony is essential to a just and fair disposition of a judicial or administrative action. A dentist has the obligation to refrain from commenting disparagingly, without justification, about the services of another dentist.

Problems Noted

This new code gives us considerable leeway in being honest with ourselves. Any dentist who defends a negligent dentist to an extreme creates a kind of action that can have two bad results. The first is the lack of service to the public in general and to the individual in particular. Patients rightfully expect the truth from those to whom they entrust their health.

The second problem is the reflection upon the profession. Consider the situation of a patient who is reasonably certain that the quality of work performed by the previous dentist was poor but who is told by another dentist that such things are unavoidable. If up to this time the patient had not experienced poor dentistry he would no doubt be mortified, primarily because of the apparent collusion.

From the legal point of view, as the quality of services decreases, the question of negligence arises. The negligent dentist is, according to Dr. John E. Nichols, one "who treats a patient in a manner which evidences that he possessed and exercised a standard of skill and care below that of the average dentist or the reasonably prudent dentist." This is a matter which should be handled within the profession since one of the benefits of professional status is the right of self-government.

It is very important that we take every opportunity to compliment a colleague's good work. By praising our colleagues we praise dentistry itself and we build a positive image in the eyes of the public we serve, an image that is the cornerstone of all our efforts to motivate our patients to value their oral health.

The public should be able to have enough confidence in the dental profession to feel that dentists can be relied upon to police themselves. Then the question of unethical practice rarely, if ever, would come up when work must be re-done.

Patient Obligation

Although our primary emphasis must be the ethical obligation of the doctor to his patients, we should not overlook the ethical responsibilities which the patient has to the doctor and office. Naturally they are simpler and fewer in number. Here are some which might stimulate some discussion. The patient should do the following:

1. Promptly pay the fee agreed upon between dentist and patient. Positive financial arrangements should always be made.
2. Be reasonable in his dealings with the office. Patients should show the same consideration for *all* members of the office staff; should not be overly demanding; use abusive language, or develop a superior attitude.
3. Keep appointments and be on time.
4. Follow instructions during and after treatment.

Referrals

Patient referral should always be made with the best interest of the patient in

mind. If the services of a specialist will, in the overall analysis, accomplish a better service with less discomfort and trauma, the patient should be referred. It should then be the obligation of the specialist to consult with the referring dentist both before and after examination, accomplish what is expected as well and as quickly as possible, and then return the patient to the referring dentist.

Chairside Relationship

There are probably as many differences in chairside communication and case presentation as there are differences in the personalities of dentists. Differences in these areas can range from virtually no communication at all to elaborate case presentations made in the confines of a plush office with the aid of innumerable visual aids. Some of these communication patterns could even include a session or sessions conducted in advance by auxiliary personnel.

Whatever the procedure, the one prevailing and important fact is that the patient be thoroughly informed as to what needs to be done; that a definite and workable financial agreement be worked out; that the procedural approach and responsibility of the office be discussed, and that the obligations of the patient be delineated.

When these conditions have been met, the only remaining factor is the personal relationship between the doctor and patient. The only cost to the dentist of being courteous, kind, and considerate will be the discipline of placing himself in the patient's shoes. It is of great importance that the dentist give utmost consideration to the fact that the problems of the oral cavity are not so magnified that he loses track of the human being that houses this area in which we work.

If a dentist can be tolerant and understanding, and show good insight into human nature and frailities, the patients are likely to show the same attributes if a planned treatment does not go according to schedule or if there is an error in judgment.

A Personal Code

Thus it becomes all-important that our practices and personal services be based on truth. We must always present an attitude of honest inquiry to attain scientific truth, which leads us to that third code—a *personal* code of ethics. What need we do, how need we think, to develop this sense of truthful, honest, capable service?

Let me cite a few examples for your consideration and enlightenment.

Last February in Chicago, I heard Dr. Andrew Holt, President Emeritus of the University of Tennessee, give an address titled "How To Be A Professional." He selected five categories and assigned value points to each, totaling 100%. The first four of those were:

1. Appearance—5%—This should always reflect with favor on the profession. One should not only think of "doing one's own thing" because in reality he represents to the public the image of a respected member of the profession which he represents.

2. Polish—5%—One should use the beautiful words which are so often forgotten—thank you, please, excuse me—words which demonstrate good manners.

3. Knowledge—20%—Dr. Holt included knowledge gained from books, continuing education, meetings and cultural activities, concerts, lectures, etc.

4. Spizurinctum—20%—This is a specially coined word—meaning initiative, drive, courage, get things done, don't put things off—in other words, don't procrastinate.

In a recent article, Henry O. Golightly, president of an International Management Consulting Firm, reviewed the opinions of

12 presidents of such firms as Campbell Soup Co., Colgate-Palmolive Co., and Coca Cola Company. They were asked what they considered the most critical factors in their success, and the qualities they looked for in others. In their brief statements the words *drive, initiative, character* and *integrity* rang out loud and clear time and time again. In fact, the article was titled, "Success Depends On Character," and the subtitle of the article read: "12 Top Executives Stress Integrity Over Intelligence, Steadfastness Over Skills, Guts Over Guile." So, Dr. Holt's spizurinctum category of "getting things done" gains considerable reinforcement from this excellent article.

The fifth point mentioned by Dr. Holt was Service, to which he gave a value of 50%, making it in his opinion as important as all the other four combined. Again, he received reinforcement from the 12 executives in their use of the words *character* and *integrity.* G. B. Mitchell, President of Dana Corp., said: "Skills are still important—but they must be deployed within a framework of strong character."

What is service? Webster describes it, in the sense in which we mean it, as "the act of serving; assistance and kindness rendered to another; usefulness; benefit caused . . ." So it becomes apparent that it is difficult to separate service to humanity from the true integrity and character of an individual. Can integrity and character be developed? I think so, and one way is by the application of the four-way test to our daily lives. Let me tell you about it.

The Four-Way Test*

This idea was conceived by a man named Herb Taylor. In 1921 he was given the task of trying to save a bankrupt company which was over $400,000 in debt. Since other companies had equally good products and more money with which to operate and advertise, he felt that a possible solution might be to develop an ethical yardstick which everyone in the company could memorize and apply to what they *thought, said,* and *did* in their relations with others.

One morning he leaned over his desk, rested his head in his hands, asking the Lord's help, and prayed. In a few moments he reached for a white index card and jotted down 24 words in the form of four questions:

1. Is it the truth?
2. Is it fair to all concerned?
3. Will it build goodwill and better friendships?
4. Will it be beneficial to all concerned?

He placed the card under the glass top of the desk and for two months checked everything that came over that desk by this Four-Way Test. This, of course, meant eliminating all superlatives and especially from advertising copy; words such as *better, best,* and *finest* had to go. Though this approach was difficult, especially at first, he finally found it possible and practical.

He then called in his four department heads: by faith they were a Christian Scientist, a Roman Catholic, an Orthodox Jew and a Presbyterian. All agreed that nothing in the Test was contrary to anything in their faith and all agreed to try it for 30 days.

To make a long story short, this philosophy was adopted and used by all members of the company. Although on a number of occasions sales were lost through the true application of the test, in the long run the new confidence of the dealers and customers caused business to improve and in five years the debt was paid off with interest; in the next 15 years over a million dollars was distributed in dividends to the stockholders. The moral and ethical benefits from the use of the Four-Way Test, however, were of greater and more lasting

value than the material returns. It helped to win friends and build confidence and goodwill with those that the people of the company contacted in their business and community relations. It helped each individual to become a better person and citizen, reaching also into the family life.

Today, more than three quarter of a million Rotarians in 150 countries are asked to accept the high ethical standard of the Four-Way Test. It is on display on billboards, on posters and in classrooms in nearly every state of the union as well as in over 100 countries in the world. It sits on the desks of legislators and judges, has been used in the training of police officers, and even some trade associations and unions have adopted the Four-Way Test as a guide to ethical business relations.

Repeatedly, world statesmen have confessed that their efforts are foredoomed if people lack respect and understanding for one another. World, national, community and personal problems stem from such disregard and mistrust among people. The same can be said about a doctor-patient relationship. The late Sir Angus Mitchell, President of Rotary International, in 1948-49 said: "This places a primary responsibility on the individual to see that his attitude in the course of his daily affairs will build mutual respect and understanding. If each of us were to use the Four-Way Test we would begin to make progress toward the solution of world problems."

If each of us were to memorize and daily apply the Four-Way Test (1. Is it the truth:—signifying honesty; 2. Is it fair to all concerned?—signifying justice and fairness; 3. Will it build goodwill and better friendship? —signifying friendliness; and 4. Will it be beneficial to all concerned?—signifying helpfulness), we would all be better persons in our dealings with those whose lives we touch. By the true application of this philosophy in everything one says, thinks and does, one becomes a better parent, a better husband, a better wife, a better dentist, a better friend and, in the sum total, a better person morally, spiritually and professionally.

A Story of Two Seas

When character and integrity have been developed within the individual the avenue to service becomes a freeway. As we said before, service means giving of oneself to helping others. The best application of giving is told in the story of the two seas, related in Bruce Barton's book *The Man Nobody Knows:*

> There are two seas in Palestine. One is fresh, and fish are in it. Splashes of green adorn its banks. Trees spread their branches over it and stretch out their thirsty roots to sip of its healing water. Along its shores the children play.
>
> With sparkling water from the hills, the River Jordan creates this sea. And men build their houses near to it, and birds their nests; and every kind of life is happier because it is there.
>
> The River Jordan flows on south into another sea. Here is no splash of fish, no fluttering leaf, no song of birds, no children's laughter. Travelers choose another route, unless on urgent business. The air hangs heavy above its waters and neither man nor fowl will drink. What makes this mighty difference in these neighbor seas? Not the River Jordan. It empties the same good water into both. Not the soil in which they lie; not the country roundabout.
>
> This is the difference. The Sea of Galilee received but does not keep the Jordan. For every drop that flows into it another drop flows out. The giving and receiving go on in equal measure. The other sea is shrewder, hoarding its income jealously. Every drop it gets, it keeps. The Sea of Galilee gives and lives. This other sea gives nothing. It is named the Dead Sea. There are two kinds of

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Stress in Dental Practice: A Personal Account

*Lewis Lorton, Graduate Student in Dental Materials**

The stresses of dental practice are great: the economics of managing a practice and a family, dealing with and caring for patients, relating to auxiliaries, and maintaining professional standards in the face of these other pressures. A number of authors have discussed the recurring fits of anxiety and repression that carry over from the professional to the personal life. My own career and my own life fit into what I see as a pattern that has affected many of my professional friends in varying degrees.

When I graduated from dental school I believed that there were many absolutes. Every textbook contained ideals presented as fact; every one showed many illustrations of the correct preparations and they were all perfect. Nowhere was there a hint that these ideals were rather remote from experience, that the attainment of absolute perfection in one's work was not only improbable but usually impossible. I was insecure in the scope of my knowledge and my abilities and I assumed, hoped, prayed that when I reached by Utopia, my own office, somehow all my questions would find answers and I would be able to do perfect work.

Not long ago I talked with some seniors in dental school and in every case they expressed the same attitude that "everything will be great when I can be in my own office and find a good lab man!" They expect that when they are in their own practice they will be complete masters of the situation and all the problems of school will disappear behind them. They are not prepared, as I was not prepared, for some harsh reality when they leave the sheltered life of dental school. This article relates some of the things that happened to me after graduation, and how my thinking changed.

Getting Started

One major acquisition that I carried from dental school was my title. I became the DOCTOR (capitals intended). Although I would, if pressed, admit that there were some areas of practice in which I was a little inexperienced, I knew that one or two weeks of private practice would remedy any deficiencies. I bought a mandibular recorder and a fully adjustable articulator to take up the slack in my knowledge of occlusion, and I joined the local dental society's budget plan to make my case presentations and collections easier.

I planned to leave the discussion of fees to my assistant. Things haven't changed much—a graduating senior told me that he plans to do the same. My reason for not wanting to talk money to the patient was two-fold. First, I felt that money should not enter into a professional doctor-patient relationship. Economics should not violate the sanctity of this relationship, at least not until the patient left the operatory and was handed the bill. Second, I knew that the work I did was good, better than most other practitioners in the area, but I knew it was not perfect. It was this feeling of having somehow failed, of not having achieved the perfection that the textbooks detailed, that was the most disturbing part. A dentist who left private practice after 6 years told me that he felt he had never been able to produce work completely to his liking; he always had this nagging

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feeing that it could have been, should have been better.

An Isolated Life

The average dental practitioner is rather isolated, the king in his own office. The whole office life revolves around him. In contrast to the physician, who may send patients to the hospital or other facilities for treatment, the dentist generally assumes total responsibility for patient care. The hazard of being the DOCTOR and assuming this cloak of responsibility and sometimes infallibility is in dealing with failure. This was the problem which confronted me when I left school and entered practice. Because I had chosen to be the DOCTOR, I found it impossible to admit that I had made human errors or that I had done procedures that might not be perfect or might not last forever. I tended to assume emotional and mental responsibility for almost everything. If an endodontically treated tooth failed, my first thought was: "A tooth that I treated failed." If a patient returned on a recall visit with poor oral hygiene, my thought was: "I did not motivate the patient well enough!" I tended to see every minute part of their dental existence as my responsibility.

The ultimate, catastrophic surprise to me as a new practitioner was that many patients, even when I explained to them what was obviously the correct course of treatment, were not interested!!! They ignored my recommendations and instead chose to come in only for emergency treatment and to spend their money on other things. My repeated attempts to proselytize them into a life of dental happiness were rejected.

Questionable Advice

About this time the nation entered the area of Pop Psychology, and the semi-professional magazines were full of articles on how to "handle" patients. These articles were all variations of one theme: Classify your patient into one of several categories and then apply a cook-book method of handling him. I was feeling the pressures of dealing with many people and so I read these articles avidly. However, when I attempted to use some of these techniques, I felt that I was not communicating with my patients as much as I was manipulating them. I wasn't happy with this situation either. My goal was no closer, which was to be able to relate well to my patients and the other people around me.

In summary of my situation: Relatively fresh out of dental school I was saddled with the high expense of opening an office. I was also unhappy with the quality of my work. No matter how hard I tried, there was always some flaw. I found myself redoing a lot of work, hating the added expense, hating to tell the patient why, yet besieged by guilt if I did not. I was the DOCTOR, calm, controlled, cheerful, caring—virtually omniscient. I could not, would not admit that any situation was beyond my knowledge, ability, or experience. I was cut off from my patients and my auxiliaries by this responsibility.

The Washington State Dental Association News in December 1976 published an editorial which gave a profile of the typical dentist who commits suicide. At the time I am writing about, I fit the major characteristics very well.

> "35-54 yrs. old male; two children; not socially involved; few close friends; easily depressed; general practitioner; good health, marriage problems, a compulsive drive for perfection, and a heavy social drinker."

Although I did not drink and I had three children, that was me! It seems incredible, in retrospect, that this situation actually went on so long before reaching a crisis point, but I endured mounting pressures and unhappiness for 8 years before a traumatic divorce completely disrupted my life patterns and gave me the opportunity to change them.

Changing Patterns

Since I was not eager to resume the same patterns that had characterized my former career, I attempted to learn about myself in a structured way. I began taking courses in psychology and attending workshops about personal growth. Quickly I began to realize that my situation, my unhappiness was generated within myself. It was due to my insistence upon taking some facts of dental practice and converting them into my personal problems.

Fact:

Patient X has gingival irritation around a crown I did. His general OH is poor. The crown contour is good.

My perception:

My crown was not good *enough* to avoid this perio problem and I did not motivate well.

Reality:

It is the patient's responsibility to practice good hygiene. If perio problems have developed around a crown that has good contour, it is because the patient has ignored OH counseling. That is the patient's problem.

I began to realize that my responsibility had ethical and practical limits. I must provide good, honest service to the patient, diagnose his problems and treat him at a level of excellence that I would want to receive myself. I must provide care to the patient with the minimum of discomfort and expense but consistent with my standards. I must provide the patient with education and instruction about oral hygiene so he can maintain his own health. I began insisting that patients recognize that *they,* and they alone, had responsibility for their home care.

Every dentist has experienced the patient who comes in with poor oral hygiene, and rampant neglect. These people usually have some incredible stories about why they have neglected themselves, expecting (and usually getting) lectures on their failures and graphic examples of what bad people they've been. My new attitude towards these people was that the past is regrettable but it is over. No amount of scolding from me will cause re-calcification of tooth structure. I will teach them good hygiene techniques and explain that if they do not follow these techniques the consequences will be theirs alone. The course they choose to take, with its sequelae, is their problem, not mine; their state of dental health is my concern but their problem. I am not their dental mother!!!

"Whose Problem . . . ?"

Having come to this new point in my life with the redefining of my responsibilities, I began to look at other segments of my practice. Could I apply the question, "Whose problem is it" to other sources of anxiety? I had never been completely happy with the dental work I had produced. The work was satisfactory in all respects and compared very favorably with the best of the other work I'd seen. But it did not compare to the work in the textbooks; it did not measure up to that illusory standard of perfection that is seen in drawings in textbooks. (It is ironic that when a textbook author needs an illustration of the perfect preparation, the perfect casting, the perfect impression, he invariably uses a drawing rather than a photograph.) I began to establish different criteria. What the exact criteria are for each procedure is not important. What is important is that I was able to define my problems, my goals, and separate out the extraneous factors. I began measuring my actions by a scale that I defined. For the first time in my professional life I was in charge. By delineating the responsibilities that I had, and separating those from the responsibilities of my patients, the lab man, or the auxiliaries, I reduced my problems to a manageable few.

What were the practical results of my new self? I told my assistant not to worry me about scheduling, or supplies, or a bunch of little things that I paid her to worry about. I told my lab man not to

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Dental Treatment of Cerebral Palsied Patients

Thomas Wicliffe, Graduate Student in Pedodontics

Mention of the term "cerebral palsy" produces in each of us a response unique to our lifetime of conditioning. Treatment of this type of patient is therefore a very emotional subject. As a Cerebral Palsy Fellow at the James Whitcomb Riley Hospital for Children in Indianapolis, I have learned from parents of cerebral palsied children that they often have a difficult time finding a dentist who will provide adequate care for their child. Unfortunately, this is likely to leave a rather large segment of the population with a compromised state of oral health.

I have had the opportunity to work with cerebral palsied patients three half-days a week. Two half-days are spent treating these patients in the clinic. The other half-day is spent as part of a multifaceted clinic which treats cerebral palsied patients from all over the state. My role in this clinic is to conduct a screening dental examination of all available patients. This includes a search for diseases, traumatic injuries, and abnormalities of the hard and soft tissues in the oral cavity. The primary function of this examination is to make parents aware of potential as well as current problems. Prevention of disease of the teeth and supporting tissues is stressed to the parents, and oral hygiene instruction is given with regard to each patient's individual problem.

Another phase of the prevention program involves determining whether the patients are receiving periodic routine dental care and referring them to a dentist in their area if they do not have one of their own. This session is concluded with a discussion of any questions the patient or parent may have regarding dental health. A common question from the parents is how they can obtain dental care for the child.

More Preparation Needed

In interviewing a number of dentists concerning the treatment of cerebral palsied patients, I have found that most of them received very little preparation for such treatment in dental school. Their lack of knowledge and experience causes this area of professional responsibility to be clouded with an aura of mystery and even fear. To help clarify matters, I would like to review some facts about cerebral palsy and offer a few suggestions about treatment.

Cerebral palsy does not refer to a specific disease but rather describes the effects following a variety of insults to the brain. According to Bax,[1] it is "a disorder of movement and posture resulting from a permanent non-progressive defect or lesion of the immature brain." Accordingly, anything that affects the motor areas of the developing brain causes cerebral palsy. The most common etiology is lack of oxygen at or around the time of birth.

The condition is classified according to severity, resulting type of posture, and the limbs affected.[2] Symptoms range from almost imperceptible to very severe. They are classified as mild, moderate, or severe, and persons with the disease are divided approximately equally into these three groups.

Effects on Posture

The type of posture seen is a result of the specific area of the brain involved. Approximately 60 percent of cerebral palsied persons are classified as spastic.

*Dr. Wicliffe is a 1973 graduate of the Indiana University School of Dentistry.

Their posture is characterized by marked rigidity of movement and inability to relax their muscles. This results from damage to the upper motor neurons or pyramidal system which includes the neurons in the motor area of the cerebral cortex and their axons. Any number of limbs can be affected .

Athetosis, characterized by involuntary, smooth, writhing, wormlike movements, affects approximately 20 percent of the patients with cerebral palsy. This type is extrapyramidal and is associated with damage to basal ganglia of the brain. All four limbs are usually involved, with the upper limbs generally more affected than the lower. Hearing defects are fairly common with athetosis.

In ataxia, one of the less common types that make up 7 percent of the total, the person shows poor body balance, an unsteady gait, and difficulties in hand and eye coordination. Damage to the cerebellum causes this type of cerebral palsy.

Finally, about 13 percent of persons with cerebral palsy are classified as "mixed," which involves a combination of the above.

Limb Involvement

The third system of classification is based on the areas involved as a result of the brain damage, and includes the following types:

Monoplegia—one limb involved (rather rare).
Diplegia or quadriplegia—involvement of the lower extremities with minimal involvement of the arms.
Hemiplegia—involvement of half the body (an arm and leg on the same side).
Double hemiplegia—all four extremities involved, with the arms more severely affected.
Paraplegia—legs involved only.
Triplegia—any three extremities are involved.

Other handicaps are often associated with cerebral palsy, and they are usually a result of the trauma to the brain. Approximately 50 percent of cerebral palsy patients have some degree of mental retardation and 25 percent of these are severely subnormal. Generally, but not always, children with the greater motor impairment have the lowest intelligence. Many of the remaining patients in this group with normal or superior intelligence have perception problems which make learning very difficult. Spastic patients seem to have a greater incidence of mental retardation than the others.

An estimated 30 percent of persons with cerebral palsy have epilepsy. Many of these patients therefore are taking anticonvulsant drugs. One of the most effective and thus most frequently used anticonvulsants is dilantin. Since dilantin contributes significantly to gingival hyperplasia, many of these patients have some degree of gingival enlargement.

Visual Defects

A large percentage of cerebral palsied persons suffer from visual defects, many of them comparatively minor and capable of being treated early. Partial hearing loss is common in these patients, with the athetoid group most frequently affected. Because of problems with muscular control and perception, speech defects are often seen. Early physiotherapy and speech therapy help improve this situation.

Among the typical oral findings in cerebral palsied patients, the most surprising is what appears to be an unusually low dental caries index, despite generally poor oral hygiene.[3] Scientific data, however, are conflicting in this area. Controlled diet is probably an important aspect of this observation. Unfortunately, the poor oral hygiene does affect the periodontium. Gingivitis and periodontal disease are much more common than in the population of non-cerebral palsied children.[4] Other frequently seen oral problems include increased enamel hypoplasia, increased enamel abrasion because of the increased muscular activity, and a high incidence of anterior open bite and

crowding of the upper and lower arches. Typical findings of an oral examination of a severely spastic patient might therefore include an absence of dental caries, mild to severe gingivitis, severely abraded occlusal surfaces of posterior teeth, and an anterior open bite.

In considering the dental treatment of cerebral palsied patients, the most important thing to keep in mind is that treatment is essentially the same as for other patients. A complete medical history is necessary to determine the problems and their extent. These findings are important in determining method of treatment. It may be necessary, if this history is vague, to obtain a consultation with the patient's physician.

Prevention Stressed

After the patient's problems have been identified and treatment of the urgent conditions begun, special consideration must be given to prevention of oral disease. Ideally, home preventive measures should start as early as the birth of the child, and they can be implemented through parental counseling. These conferences might include such items as dietary fluoride, dietary restriction of carbohydrates; and effective plaque control as soon as the teeth begin to erupt. Since gingivitis is seen in most patients with cerebral palsy, all of these patients and/or their parents should be given thorough oral hygiene instructions. The Bass[5] technique should be taught, with emphasis being placed upon cleansing the gingival crevice and the reasons why this area is so important.

A problem of tooth brushing often encountered by the parent is the difficult time that the child has opening his mouth. This can usually be overcome by instructing the parent to prop the mouth open with the left hand, using two tongue blades taped together and brushing with the right hand while holding the child's head on the lap. If the patient is older and is responsible for maintaining his own oral hygiene but has limited coordination, the use of an electric toothbrush has been shown to be effective.[6]

Another important service for some of these patients is the construction of a custom toothbrush. Because of limited fine motor coordination, gripping the small handle of the toothbrush often presents quite a problem. This situation can be eased by using dental materials and designing the toothbrush handle to suit the needs of the particular patient.

Additional Service

Still another valuable service that the dentist can provide for patients with limited use of the arms or legs is the fitting and construction of a mouthstick. I have seen several patients functioning as working members of society without the use of arms or legs. By using the mouthstick, these persons are able to carry out unbelievable tasks such as intricate sewing and bowling. These results are psychologically rewarding for both patient and dentist.

For most cerebral palsied patients, local anesthesia and usual behavior modification techniques such as reinforcement with compliments for good cooperation and use of a firm voice tone for inappropriate behavior are sufficient for treatment. Many of these patients may need help in controlling involuntary movements, and restraints may be necessary in such cases. These restraints should not be viewed as punitive but as a necessity to protect the patient and to permit efficient treatment to be provided. Restraints may include devices such as Pedi-Wraps* and Papoose Boards,** or other aids such as bed sheets and simple straps. In most cases mouth props should be used to protect both the patient and the dentist. I prefer the ratchet type mouth prop but something as

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* Pedi-Wraps—Clark Associates Inc., Worcester, Mass.

** Papoose Board—Olympic Medical, 4400 Seventh South, Seattle, Washington.

simple as tongue blades attached with adhesive tape works very efficiently.

Nitrous oxide used as analgesia is another important aid to treatment. However it is not a cure-all, and caution is advised in its use. According to Langa,[7] to maintain the proper level of nitrous oxide analgesia, communication with the patient should be established; signs such as closing of the mouth are most helpful in determining progress toward overdosage of nitrous oxide. Since the cerebral palsy patient often cannot communicate well and since his mouth is usually propped open, these normal monitoring devices are not available and caution is necessary.

Uses of Premedication

Premedication is an important but often abused treatment aid. The rationale for drug therapy is to relieve anxiety and relax the muscles. It should not be used routinely as a crutch; the patient should be given an opportunity to be treated without the aid of a drug. If premedication does prove to be necessary, the drug should be carefully selected with consideration given to the patient's physical, mental, and emotional state. Chlordiazepoxide hydrochloride (Librium) is a very effective drug for reducing both psychic tension and muscle spasm.

The last treatment modality to be considered here (and it should be the last to be considered by the practitioner as well) is general anesthesia in the hospital. The risks and psychological trauma of general anesthesia should be avoided if possible.

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During an Open House of the Dental Auxiliary Education program on the campus of I.U. Northwest last fall, an engraved plaque was presented by Dean Ralph E. McDonald, in the company of Chancellor Danilo Orescanin, of the Northwest campus, and Dr. Edward W. Farrell, Director of the Northwest DAE program, to the President and Vice President of the Northwest Indiana Dental Society, Dr. Paul Stephens and Dr. George Batcho. The plaque was in recognition of the cooperation and support by local dentists in the creation of the Program. Left to right above, are Chancellor Orescanin, Dr. Farrell, Dean McDonald, Dr. Stephens, and Dr. Batcho.

Endodontic Treatment and the Risk Of Subacute Bacterial Endocarditis

*Roger E. Wood, Resident in Pedodontics**

As early as 1920 a relationship was suspected between extraction of infected teeth and endocarditis. Calvy[1] believed that extraction of infected teeth could cause a latent heart infection to flare up. OKell and Elliott[2] in 1935 demonstrated the occurrence of transient bacteremia following tooth extraction and reported a direct relationship between the incidence of bacteremia, the severity of gingival lesions, and the amount of damage induced during surgery. In their experience Streptococcus viridans was the most common organism, and it accounted for approximately 50% of all cases of subacute bacterial endocarditis.[3] The condition is sometimes referred to as Streptococcus viridans endocarditis.

Since the work of OKell and Elliott in 1935, a cause and effect relationship between various oral factors and subacute bacterial endocarditis has been considered, and many investigations have been undertaken to test this relationship, The following dental procedures have been shown to produce bacteremia: exodontia,[4,5] brushing the teeth,[4] gingivectomy,[6] scaling with curettage,[7,8] and endodontic treatment with instrumentation forced beyond the apex.[5]

This article calls attention to the possibility that a bacteremia caused by endodontic treatment can pose a risk, long after the treatment has been completed, to a patient who is susceptible to subacute bacterial endocarditis.

Mortality Rate Cited

In persons with rheumatic or congenital heart disease, bacteria that enter the bloodstream may lodge at the site of a congenital defect or at one or more of the heart valves and cause bacterial endocarditis. The disorder is described as occurring in acute and subacute forms. Despite the availability of antibiotics, there is still a high mortality of about 25%.[9] It is impossible to predict in which patients this disease will occur.

Subacute bacterial endocarditis is difficult to diagnose. The patient may manifest chills, fever, weakness, lack of appetite, difficulty in breathing with exertion, and petechiae of the buccal mucosa and palate. The heart may be enlarged, and murmurs caused by ulcerations or vegetations of the valves are common.[10]

Most of the literature supports endodontic therapy for patients who are susceptible to subacute bacterial endocarditis. Leeds[11] reported that endodontics may be performed with coverage if the tooth is not instrumented beyond the apex. Farrington[12] stated that only 4% of formocresol pulpotomies result in an immediate transient bacteremia and that it would appear to be a safe procedure even in patients with an adverse medical history. Patterson[13] has stated in an interview that he supports endodontic therapy for the permanent dentition of patients susceptible to subacute bacterial endocarditis, but has reservations about the primary dentition due to the different morphology of the root canals.

Procedures Compared

In 1960 Bender et al[14] reported that certain endodontic procedures produced bacteremias, related to the type of root canal operation. Following a 10-minute vigorous manipulation of a file within the

* Dr. Wood is a graduate of the Medical College of Virginia School of Dentistry

root canal in the presence of saliva, no positive blood cultures were detected in 25 teeth. On the other hand, when instrumentation was performed beyond the root apex of 24 teeth, 25% of the blood cultures were positive immediately afterward. However, within 10 minutes all blood cultures were negative. Bender further stated that endodontic treatment is less likely than extractions or periodontic treatment to cause a bacteremia, and therefore is the treatment of choice whenever possible. He reasoned that the area of manipulation is small and that the number of blood vessels which can be opened to bacterial entry is much less than in the extraction of teeth or in periodontics. In other dental procedures, more blood vessels are opened and more bacteria can enter the circulation. This view is shared by Weine[15] in the 1976 edition of *Endodontic Therapy,* and Seltzer and Bender[16] in the 1975 edition of *The Dental Pulp.*

In 1962 Eisenbud[17] reported a case of subacute bacterial endocarditis in a 54-year-old man due to endodontic treatment performed two months earlier. The patient had a history of a heart murmur, and no antibiotic coverage was provided. Apparently overlooking this report, Bender and Seltzer[18] in 1963 stated that "the validity of the criticism of endodontic treatment as a possible causative factor in subacute bacterial endocarditis has never been established; nor has such as indictment been substantiated."

Seltzer[19] and associates in 1964 reported a study whose findings throw additional light on this question. They conducted histologic research on periapical repair following root canal therapy in 64 teeth of 3 dogs. Periapical repair around canals which yielded a prefilling positive culture was compared with the repair around canals yielding a prefilling negative culture. There were no significant differences in repair in the two groups, and the most severe inflammatory responses appeared to be due to overfilling root canals. In addition, severe inflammatory responses occurred around particles of root canal cement forced into the periapical tissues.

Interpretation Difficult

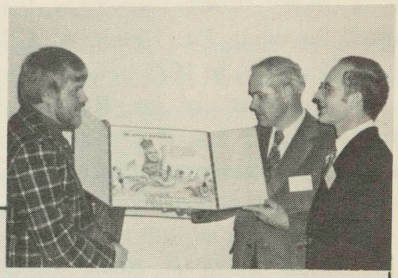
Most important, however, chronic inflammation persisted in the periapical tissues of the dogs for at least one year following endodontic procedures. The experiment lasted 359 days. Radiographs frequently did not reveal the extent of the periapical involvement as determined by histologic examination. Unless serial sections were examined, the effects of certain procedures could easily be misinterpreted. If human tissues were to react similarly, chronic inflammation might result which could persist without symptoms for long periods of time within the periapical tissues following endodontic treatment.

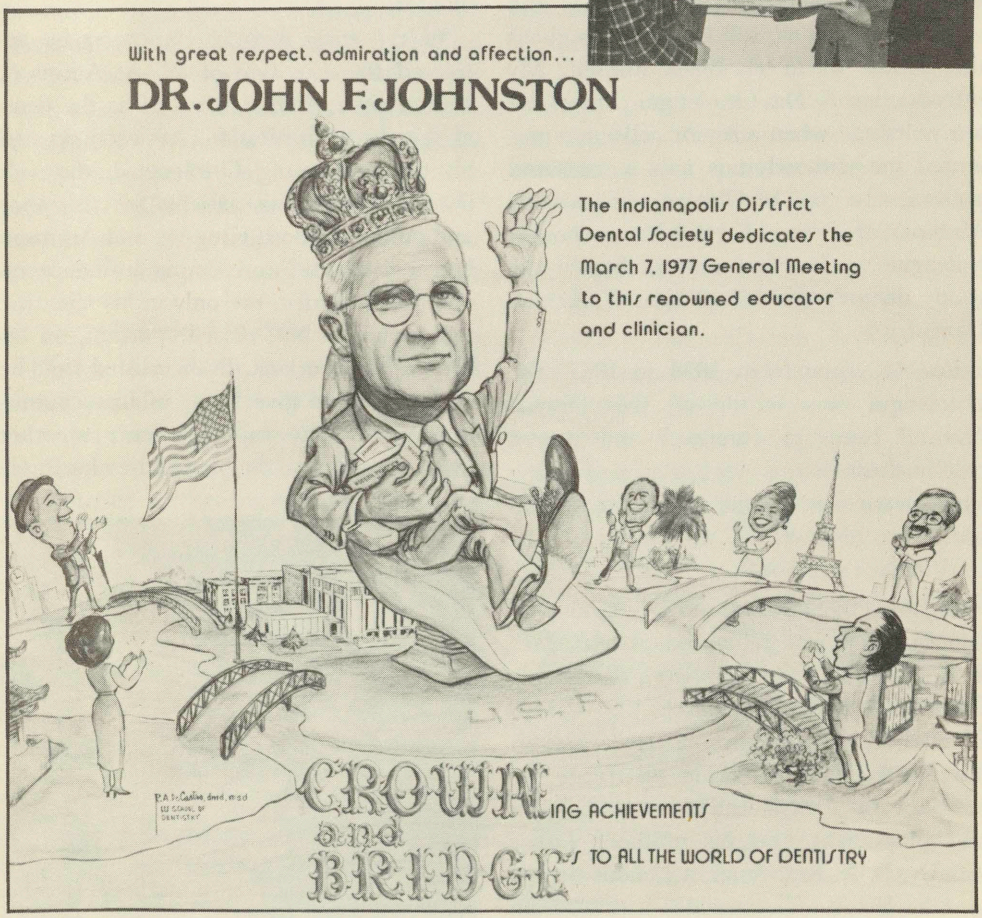
It is important to understand that endocarditis may occur despite antibiotic coverage. Dentists and patients must maintain a suspicion of any unusual clinical problem following dental procedures. Early diagnosis is essential to reduce complications and mortality.

In the histologic research done by Seltzer and associates it appears that a bacteremia can develop after endodontic therapy. In accordance with these findings, it would be advisable to extract all pulpally involved primary teeth of patients who are susceptible to subacute bacterial endocarditis. These patients are prophylactically administered 500 mg of oral penicillin one hour before extractions, and coverage is continued for seven days with 250 mg every six hours. After the extractions, these patients are best treated with space maintenance appliances. For the patient with pulpally involved permanent dentition, endodontic treatment may be undertaken as long as care is exercised to use an aseptic technique and not to extend beyond the apex of the tooth. In the event

(continued on page 77)

Tribute to a Leader...





Dr. John F. Johnston, University Professor Emeritus and former Chairman of the Department of Fixed and Removable Partial Prosthodontics, was honored for his many contributions to the dental profession and to dental education when the Indianapolis District Dental Society dedicated its March 7th meeting to him. This art work by Dr. Rolando DeCastro was presented later to Dr. Johnston, who has been ill for some time. In the top photo Dr. H. William Gilmore (center), IDDS Trustee to the Indiana Dental Association, and Dr. Jack Showley (left) IDDS Secretary, are displaying the folder containing the drawing. Dr. Duane Compton, IDDS President, looks on. The side panels of the folder are filled with signatures of Dr. Johnston's colleagues and former students.

Rodrigues Ottolengui, M.D.S., Ll.D.

John Kirkwood, Graduate Student in Periodontics

"Farewell, Rod! Your work lives after you." So wrote Dr. Henry W. Gillett[1] of New York City in 1937 in a parting tribute upon the death of Dr. Rodrigues Ottolengui. Today few if any dental students would know the name of Ottolengui, who was a contemporary of G. V. Black and must have been as well known throughout the dental world as Black himself. My introduction to Dr. Ottolengui came some ten years ago when a senior colleague presented me with what is now a treasured possession, a copy of Ottolengui's textbook *Methods of Filling Teeth.*[2] Later another colleague was to lend me another of the good doctor's books, *Table Talks on Dentistry.*[3]

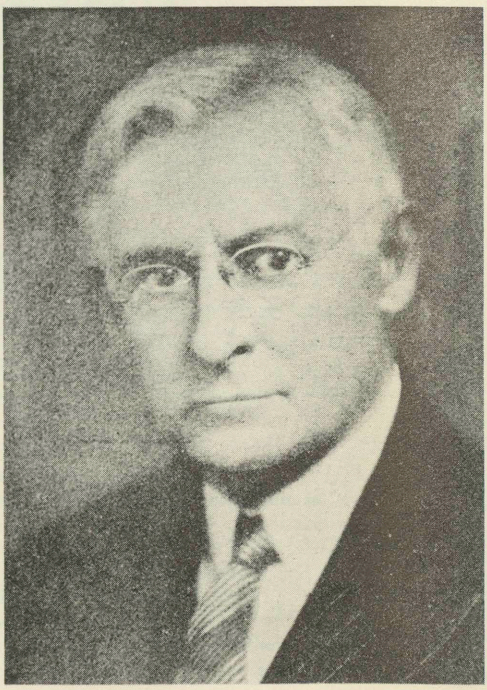
For 41 years, from 1896 to 1937, Dr. Ottolengui was editor of the Journal "Dental Items of Interest," and it was chiefly through this work that he became well known throughout the dental profession, since his textbook was supplanted by G. V. Black's classic.

As noted by Schwartz in his biographical sketch which was published as a preface to *Table Talks on Dentistry,* Rodrigues Ottolengui was born March 15, 1861 in Charleston, South Carolina. He chose his parents wisely, considering his future career, for his father was a newspaperman and playwright and his mother's father was Dr. B. A. Rodrigues, a famous dentist of Charleston. His mother was also an author of considerable note and regarded at one time as the handsomest woman in South Carolina.

Apprentice Training

As was the custom of the time, Ottolengui, like his grandfather, received his early dental training as an apprentice. This was in New York City under the instruction of Norman W. Kingsley, whose assistant and associate he later became. Kingsley was considered a skillful prosthodontist, a prominent orthodontist, and the originator of a successful method of treating cleft palates. So Ottolengui was again fortunate and wise in his choice of mentor.

In the early days of his career he attracted the attention of W. A. Atkinson, at that time often referred to as the dean of the dental profession. Atkinson opened his door to young Ottolengui, who was invited to bring his patients for assistance and guidance. Both Kingsley and Atkinson had a profound and lasting influence on our young dentist, not only in his scientific and technical but, most important, on his professional outlook. Both insisted that he in turn should give freely of his accumulated knowledge and experience to other dentists, and that he should be charitable



Dr. Ottolengui

in his treatment of poorer patients. Kingsley especially emphasized this in relation to cleft palate patients.

Ottolengui's work *Methods of Filling Teeth* was first published as a series of articles in Dental Cosmos, beginning in 1891. The reader will note that the author was then thirty years young. The copyright of these articles belonged to Ottolengui. The work was published in book form in 1892 and a second edition appeared in 1899. Now the copyright was in the name of the publisher, the S. S. White Dental Manufacturing Company. This work was not Ottolengui's first appearance in print, however. His name first appears in the Index to Dental Literature in 1881 and a perusal of subsequent issues to 1937 reveals the wide scope as well as the number of his publications.

Practiced in New York

During his career he maintained an active practice in New York City. It is recorded that he specialized in orthodontia and root canal therapy but did not confine his practice to these specialties. This does not seem to have raised anyone's ire. Does this have a message for dentistry today?

Following Hunter's pronouncements on faulty root canal therapy Ottolengui wrote a forceful editorial. Those who understood and were competent in this treatment had a duty to teach others, he declared. Having so spoken, it was he who was called upon to give post-graduate instruction. For two or three years he gave classes sponsored by the Second District Dental Society. Refusing to profit from these classes, he diverted the fee of $25 per participant to the funds of the Society.

He believed that he had contributed to the successful technique of filling root canals, and particularly of filling them without protrusion through the end, which he felt should always be avoided.

The usefulness of X-rays was apparent to him in those pioneer days and he was one of the first to use them as an aid in root canal therapy. Indeed he took pains to investigate the interpretation of radiographs and his counsel on that subject was often requested.

Preventive dentistry was not unknown to the good doctor. He helped persuade the director of child hygiene in public schools to place lectures on dental hygiene in the school curriculum. He also supported the concept of special training for professionals to be designated as dental hygienists.

Political Activities

Dental politics was not above or below his attention. At the time that he was establishing his practice there was a problem in New York City of countless illegal practitioners. He studied the situation thoroughly, formulated a statute, and had it adopted by the legislature.

Closer to his profession, he was at the forefront in reorganization of the American Dental Association, which was apparently necessary then. At the National Meeting in Boston in 1908 he proposed that the association should reorganize along the lines of the American Medical Association. With that in mind he proposed a constitution and bylaws patterned after that of the medical body but adapted to dentistry. No doubt as the editor of "Dental Items of Interest" he was in a powerful position, and he published his proposed constitution in the September 1908 issue of that journal.

He was active in A.D.A. affairs and for many years was Chairman of the Dental Relief Fund Committee and originator of the "Christmas Seals" program. Like some Hillenbrand or Hine of the past, he held office in many organizations and honors were showered upon him. He served as President of the Dental Society of New York, the Brooklyn Dental Society, the 2nd District Dental Society, and the American Society of Orthodontists.

How Dr. Ottolengui received his early dental training has already been men-

tioned. In due course his masterly conception of dentistry was recognized by the University of the State of New York, which in 1885 honored him, at the age of twenty-four, with the degree of Master of Dental Surgery. Valparaiso University in 1907 awarded him the honorary Ll.D. degree "for his extracurricular activities which so unselfishly marked his interest in his fellow man." Creighton University awarded him the honorary degree of Doctor of Dental Surgery in 1909.

Outside Interests

His extracurricular activities were not confined to dental fields. But his outside interests were more than hobbies. As an entomologist alone he was outstanding. As his collection grew he found it necessary to concentrate on a particular species. His collection of one group of noctuid moths was considered the largest in the world. It was deposited in the Museum of Natural History where it was displayed separately as "The Ottolengui Collection."

Photography was another of his interests. He associated with leading photographers in the New York Camera Club, and won two prizes for photos which were later published.

As an author he was not confined to dental subjects. His first detective novel, "The Artist in Crime," was translated into French, German and Polish editions. An English language edition was published in Germany for distribution to English and American travelers on German railroads. Other novels were "The Modern Wizard," "A Conflict of Evidence," "The Crime of the Century" and "The Phoenix of Crime," and there were many short stories as well.

In his last novel Dr. Ottolengui indicated the possibility of identifying a person by his teeth even after cremation. Some five years after its publication a body found near Yonkers was identified in that manner by a law officer who had read the book! Was this the beginning of forensic dentistry?

Among his honors was the Gold Medal of the Callahan Memorial Award (1930), given to him for his work in root canal therapy. Further, he was Past Supreme Master of Delta Sigma Delta.

A tantalizing and mysterious indication of his character is revealed in "Dental Items of Interest" of August, 1934. (Remember that he was the editor.) In a pen sketch for a section "Among our Authors," the qualifications listed for him include "formerly F.A.C.D. (resigned)"! There are indications elsewhere that Ottolengui apparently was not prepared to drop his F.A.C.D. completely. Was he ever reinstated?

Meticulous Editing

The editorship of "Dental Items of Interest" has been said to have been his principal endeavor, which he continued until his death. After his death the publishers stated that for 41 years and 45,000 pages every word received the careful scrutiny and meticulous editing of our friend. He changed the "Items" from a periodical of clipped items to one of outstanding original contributions. Many textbooks were first published as a series of articles in the "Items," just as was Ottolengui's own book in Dental Cosmos.

Among the important landmarks in the "Items" were:

Publication of the first radiographs in 1897.

Introduction in 1899 of the words "Prosthodontia" and "prosthodontist" to replace "mechanical dentistry."

Editorial announcement in February 1907 of Taggart's presentation on "the Cast Gold Inlay," followed in 1908 by a second and more detailed paper by Taggart.

The section in the "Items" called "Around the Table" was written for each issue by Ottolengui.

For the occasion of his 75th birthday the "Ottolengui Testimonial Committee" was formed. Expressions of good wishes

and respect poured in. Among these one reads:

"I could not estimate the influence that Dr. Ottolengui has had on my career."

"One of the royal noblemen in the dental profession."

"Ever since my student days in Melbourne I have had a great admiration for Dr. Ottolengui and have followed his writings with the greatest of interest and benefit right through 33 years of practice in West Australia."

Rodrigues Ottolengui died on July 11, 1937, at his home in New York City. Obituaries appeared in many dental journals and tributes to him continued to be received by the publishers of "Dental Items of Interest."

Schwartz[4] wrote:

"Of Rodrigues Ottolengui it will be said he lived a full life. A life filled with deeds for his fellow men."

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Dr. Lloyd J. Phillips, immediate past Seventh District Trustee, was made a Sagamore of the Wabash, the Hoosier state's highest honor, on his "day" January 7 at Indianapolis. Participating in the ceremonial were (left to right) Governor Otis R. Bowen, MD, of Indiana, Dr. Phillips and Dr. Glenn W. Irwin Jr., vice-president of Indiana University, Indianapolis.

Dentistry As A Later Career Choice

Jerrold G. Larson, Graduate Student in Periodontics

Anyone who enters the dental profession soon finds out that a number of his or her colleagues come from extremely diversified backgrounds. Several questions are likely to come to mind:

Why are these people in dentistry?
Did their previous backgrounds help them in dental school and after graduation?
What have they contributed to dentistry or what do they expect to contribute and, in particular, how does this relate to their previous training?
How has their previous background helped them to deal with people?

The purpose of this article is to draw attention to the diversified group of people in our profession and to suggest some answers to the above questions, based on a number of informal interviews with dentists of varying backgrounds. It appears that these individuals do contribute a particular flavor to the dental profession. A few examples will give you an idea of what we are talking about.

One of the men interviewed entered dental school after seven years in a business career. Upon graduation from high school, this person thought about dentistry but after college he was caught up in the business world, got married, went into the army, and upon discharge went back into business for ten years. He says he gained a fantastic insight into dealing with people while in business. A number of factors (no one in particular) brought him to the realization that he had to go into dentistry. He has since graduated with a D.D.S., has gone on to a M.S.D., and is now a member of a dental school faculty. He likes people, enjoys dealing with students, and feels that his contribution in dentistry will be in dealing with students. He says that ten years of business experience has been a tremendous asset when it comes to dealing with people.

Personal Contacts Noted

A pharmacist who later became a dentist says that he wanted to be able to deal more directly with people but didn't want to become totally involved with health problems or the life style of people. Therefore, he chose dentistry as opposed to medicine since he felt it would enable him to do technical procedures and have direct contacts with people but without the full-blown involvement that he felt one would find as a physician. He says that because of his previous background he was able to relate to the profession on a more mature basis and consequently got a lot more out of the program. He felt that the academic work was relatively easy for him because of the scientific knowledge he had already gained pertaining to the dental field.

A graduate engineer who worked in sales for a large company for a number of years said in the interview that the money the job paid was not all that bad, but it looked like a dead end street regarding promotion. So he weighed the risk potential of spending additional time with the company, as against the four years in dental school. He decided that the end result of going to school would offer more security than staying with the company. Since his graduation he has gone into the specialty of oral surgery. He looks forward to the prospects of freedom that exist within the profession of dentistry—the opportunity to set his own hours and working time. The remuneration, he feels, will be consistent with the time put in and the work done.

Background in Teaching

Another example of multiple careers is a person who has a master's degree in Biology and taught in high school before attending dental school and later obtaining a M.S.D. in Orthodontics. Although he likes children, he says that he could not stand teaching any longer. He also wanted to set for himself and his family a higher standard of living which did not seem possible in his teaching position. The fact that he had completed a master's degree in Biology helped him tremendously while going through the dental program. He says that his background in working with young people as a teacher helps him when it comes to managing children and parents in a private practice situation.

On the basis of these interviews and others, it seems to me that a few tentative inferences can be made on some general characteristics that these people who have changed professional goals have in common. First, they all seem to be somewhat restless. Once having reaching a plateau of achievement, they seem to want to go into something else. For example, one person interviewed had been a construction worker, a printer, a dock worker, and a medical technologist. He states that his previous background as a medical technologist definitely helped him during his university training in dental school and also helped lead him into a master's program. When his graduate program is completed he will probably teach. His restlessness is further indicated by his expressed desire to institute change within dental education on the basis of realistic communication with dental students.

Most of the people interviewed appear to be of the "soft sell" variety. They do not make a lot of fuss about their background. They don't build it up, even though they recognize that on many occasions the background that they possess is quite a distinct asset. They tend to show good insight into problems, and remarkable skill in getting things done. However, their interest may not be maintained over long periods of time. It seems that some of them would probably rather be doing things other than wrestling with the ponderous machinery of institutions.

Positive Attitudes

All of the people who were interviewed had very positive attitudes. They seemed to be quite secure and happy, with more or less self-assured personalities. Most of them were not uptight about anything. As a group, they were older than their dental school classmates and consequently had a more mature outlook on life in general.

One man had been a lumberjack who topped trees for a living in the crisp clean air of the Canadian Rockies. He is now an endodontist. There is quite a contrast from topping firs to filling teeth with gutta percha points, but this person seems to have had no difficulty in adapting to either activity.

Very few of the people interviewed came from an area where a particular digital skill was required. This did not seem to have an effect on whether or not they became good clinicians. In fact, from what I could gather they are all very competent clinicians.

Of course, one man in the interview group had been a telegraph operator with eight kids. He knew that his job was on the line, as telegraph operators do not have marketable jobs these days. So he and his wife and eight children made the leap into dental student life. The man now has a busy rural practice and is very happy—and is still using the digital skills he developed in his earlier job.

The dentists interviewed generally like dealing with people and although they are skilled operators they seem to be more concerned with people than with the technical aspects of dentistry. In other words, they are interested in doing something for someone. The opportunity to exercise their own judgment in dealing with a dental health problem appeals to their sense of

responsibility and probably satisfies some need within themselves.

Several of those interviewed mentioned that achieving upward mobility in the social order was a factor in their choice of dentistry. Prestige was an important consideration and along with this came a change of life style, and increased income. Also, it was generally felt that the remuneration is consistent with the responsibilities assumed and the education and skill required.

Sense of Freedom

Aside from the satisfaction that one would expect to get with a seemingly more rewarding position in life, there was also the sense of freedom, being your own boss, setting your own hours, being able to take off a day without explaining to someone why you wanted to do it.

In this time of feminist movements, another interesting point came to light. A husband and wife team who both had previous professional experience, after considering all other professions, entered the field of dentistry. Why? They felt that dentistry offered a sense of equal opportunity in this so-called men's world.

Over and over again, the persons interviewed spoke of the freedom to practice freely, exercise judgment on their own, and have their own life style. The work situation does not necessarily rule their whole life. They are free to express themselves in their jobs and in a variety of other ways.

These people seem to have a wide variety of interests outside of the field of dentistry. For example, one dentist I know who has a background in aviation lives on an island near a major city and flies to work every day. He used to be a test pilot before going into dentistry and now teaches at a university and practices dentistry part-time. He flies his plane principally as a hobby.

Based on these interviews, the most obvious point to be made about these people is that they appreciate the fact that there are still opportunities in dentistry to be your own master. Being independent by nature, such persons grasp the opportunity to participate in a relatively free life style. To date, the government and third parties have not interfered with the dentist-patient relationship and thus the concept of freedom still remains an attractice factor.

Dr. Ben Fisher (left), of the Complete Denture Department at I.U.S.D., chats with Dr. R. Sheldon Stein, Clinical Professor at Boston University School of Dentistry, during a break in Dr. Stein's Continuing Education course, "Ceramo-Metal Restorations," presented at the School recently. The Program, co-sponsored by Alpha Omega Dental Fraternity and the School, attracted 51 dentists and technicians. The fraternity donated its share of the proceeds to the Alpha Omega Foundation. Dr. Fisher was Program Chairman.

Mrs. Chilton Retires . . . .

The official Indiana University records now show that Mrs. Ruth Chilton, long time "Secretary" (capital S) to Dr. M. K. Hine, Dental Dean, then Chancellor and finally Special Consultant to the President, retired on November 19, 1976, after 25 years of service.

The official records are—as is often true—accurate but totally inadequate. The records do not given any indication of the value of her services, her loyalty, her dedication or her sympathetic manner in taking care of the myriad problems that came to her.

Mrs. Chilton made her "boss," and the University, "look good" on innumerable occasions. Particularly as the Chancellor's assistant, she would listen to a complaint from a student, staff member or faculty member, then quietly calm the individual down, and usually find a solution—or at a minimum get the comment, "Well, at least *you* listened to me."

Although Dr. Hine vigorously protested her retirement, he had to agree that she deserved it, particularly since she was needed at her home to care for her convalescing husband "Tom," who after a long stay in the hospital, is now slowly improving at home.

Much could be written about Mrs. Chilton's contributions to the progress of the University. She worked rapidly and efficiently, and the volume of work she completed was tremendous. She was always punctual, and willing to work "overtime" whenever the occasion arose. Mrs. Chilton usually took some of her assignments home, and working on Saturday was almost routine.

Mrs. Chilton will be missed for a long time, and her contributions will not be forgotten.

When it became known that this article was being prepared, several who had known Mrs. Ruth Chilton for many years sent in comments:

Dean Ralph E. McDonald—During my 25 years of acquaintance with Mrs. Ruth Chilton, I have never heard anything said about her as a person or as an employee of the University that was other than very complimentary. Who among us can say he or she has received the same respect and admiration?

Students, Faculty members, and Administrators come and go, and all leave their mark on the University. Mrs. Chilton's reputation with everyone who has worked with her extends far beyond the boundaries of Indiana University. Her influence has been global as a result of her service to Dr. Hine and his colleagues.

Mrs. Chilton's telephone voice always reflects pleasantness, interest in the caller, and a sincere wish to be of assistance.

Many times during the past 25 years, I have had occasion to call Mrs. Chilton to ask her to delay a message to Dr. Hine. In the background I could hear her slip a piece of note paper into the typewriter, and her pleasant "go ahead" was my cue

Mrs. Ruth Chilton

to give her the message. I could always hear the typewriter operating with machine gun rapidity, recording my request in detail as rapidly as most secretaries can take dictation.

Associate Dean Ralph W. Phillips—There are many accolades that could be paid to Mrs. Chilton, stressing her compassion to students and faculty, organizational talents, unusual capabilities as a secretarial administrator and a warm sense of humor. However, I think that the one quality that I have most admired in her is that no matter how busy she would be in her own activities, she was always able to divorce her thinking immediately from those matters and give undivided attention to your own particular request. During her years of service, the Dental School and IUPUI experienced an enormous growth, accompanied by inimitable problems. She did much in easing the faculty and staff through that transitional era.

Associate Dean Robert L. Bogan—Those of us who worked closely with Mrs. Chilton were always appreciative of her incalculable patience, her infallible memory and her incandescently pleasant manner. More than once during my early experience as an assistant dean, Mrs. Chilton bailed me out by advising me what Dean Hine would have probably done in a similar circumstance. Those of us in the dental school, and throughout the University, extend our very best wishes to her in her retirement.

Associate Dean S. Miles Standish—The university employment records will show simply that Mrs. Ruth Chilton gave "25 years of good and faithful service" to I. U. The records will not, however, indicate the extra measure of her devotion to the School of Dentistry and Indiana University ,nor will it reflect the high regard and affection with which she will be remembered.

Mrs. Chilton possessed all the expected organizational and managerial skills characteristic of the highly efficient executive secretary, yet virtually all of her coworkers will remember her for the many "small" things she did to make the day brighter and the pace less hectic.

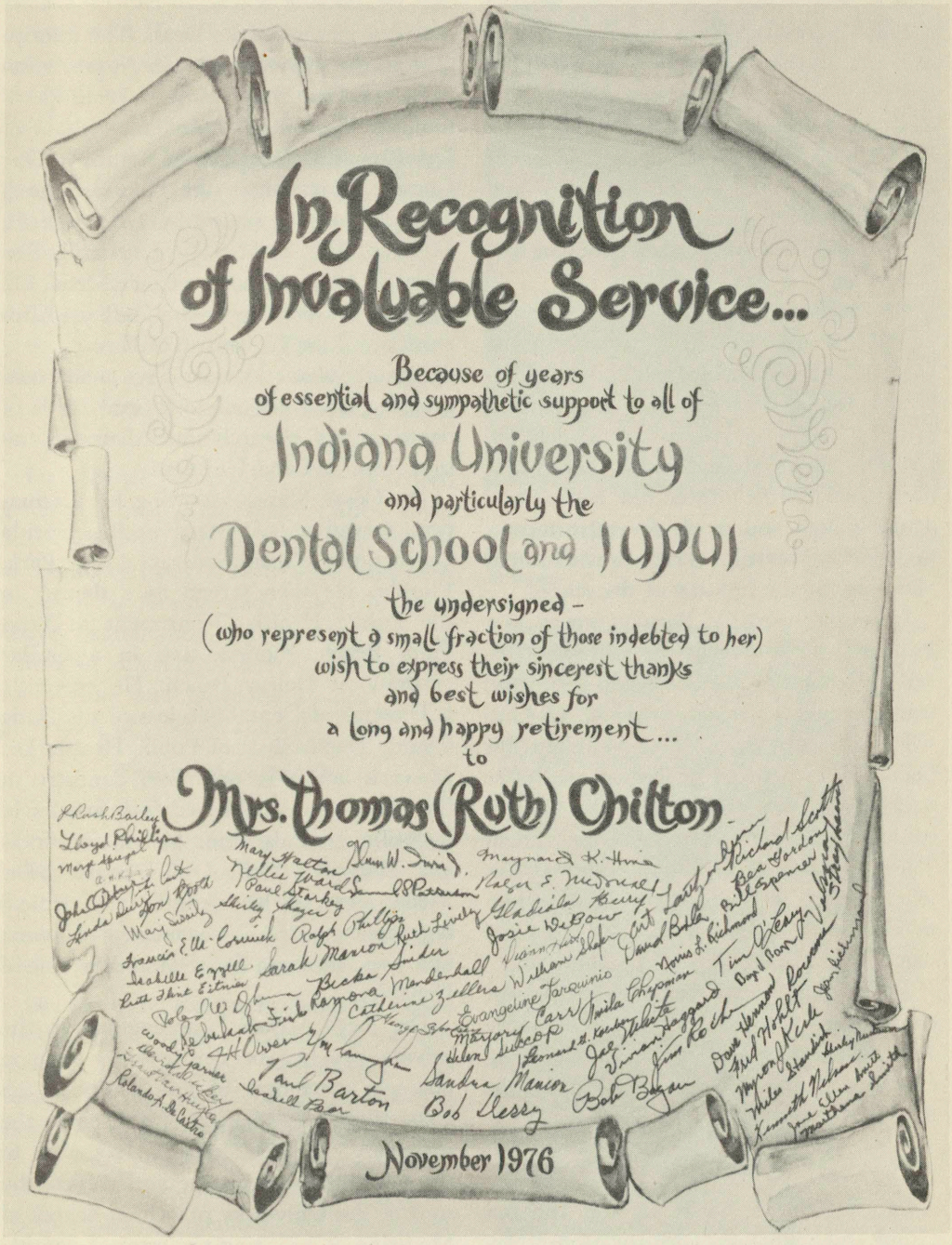
Dr. William G. Shafer—There is no one who doesn't know that Mrs. Chilton is one of the sweetest, kindest women whom it has been our pleasure to know. What many don't know is that she and Tom (her husband) are authorities on bees and honey. On one hot summer day, some years ago, our yard and trees were deluged with huge swarms of rather angry bees "nesting." We called Mrs. Chilton for advice and, within the hour, she and Tom had arrived, captured the whole kit and kaboodle with *bare* hands and escorted them to their hives. They certainly saved the day for us.

Dr. Robert H. Derry—Mrs. Ruth Chilton has been a faithful person to Indiana University School of Dentistry and her efforts will never be forgotten.

Miss A. Rebekah Fisk—For a number of years Ruth Chilton and I rode to and from the dental school together. What did we talk about on these trips? In retrospect, I think that I monopolized the conversation, seeking her advice about my teenage students and problems in the Dental Hygiene Program. Eventually our riding arrangement was no longer feasible because I moved out of the neighborhood. I missed Ruth Chilton's companionship on those Monday thru Friday trips. She was a sympathetic listener, a wise advisor and a sincere friend. I wish her Godspeed in the coming years.

Mrs. Helen W. Campbell—Because of Ruth Chilton's calm and cheerful response to the many requests made of her, it has always been possible to go to her with School problems. No one ever questioned her fairness or the objectivity of her actions, and I am certain her subcon-

(continued on page 78)


In Recognition
of Invaluable Service...
Because of years
of essential and sympathetic support to all of
Indiana University
and particularly the
Dental School and IUPUI
the undersigned -
(who represent a small fraction of those indebted to her)
wish to express their sincerest thanks
and best wishes for
a long and happy retirement...
to
Mrs. Thomas (Ruth) Chilton
November 1976

Notes from the Dean's Desk...

Ralph E. McDonald

For a period of more than forty years, students at the School of Dentistry had the privilege of attending the Principles of Surgery lectures offered by Dr. Jacob K. Berman. With his death on November 17, 1976, the Schools of Dentistry and Medicine and the community lost an internationally known surgeon, educator and friend.

Dr. Berman began his medical career in 1918 as an assistant instructor in the Department of Physiology at Indiana University. He earned his medical degree from Jefferson Medical College in Philadelphia. Dr. Berman often expressed regret that his medical Alma Mater did not have a dental school and made several attempts to assist the Board of Trustees with initial planning for the funding of the school.

In recent years, Dr. Berman served as a Professor of Surgery in the Indiana University Schools of Medicine and Dentistry, being named Professor Emeritus of both schools in 1968. Even after receiving this honor, Dr. Berman continued to offer selected lectures to the dental school students. Several years ago, the Theta Theta Chapter of Omicron Kappa Upsilon honored Dr. Berman by naming him to Honorary Membership. This honor is one that was treasured by Dr. Berman.

A personal recollection of a frequent class reference by Dr. Berman in the early 1940's was: "Treat the tissues with loving care and they will respond in the same manner."

"In Appreciation . . ."

On October 2, 1976, at the Indiana University School of Dentistry Alumni Association Annual Banquet, four former practicing Cuban dentists and graduates of Indiana University School of Dentistry during the period of 1964 to 1970, presented a plaque to the Dean. The inscription on the plaque read, "In Appreciation —Cuban Dentists—Refugees From Communism Welcomed at Indiana School of Dentistry, Enabling Us the Return to Our Chosen Profession in the United States." The plaque was signed by Dr. Jorge H. Miyares, Dr. Esther T. Lauzardo, Dr. Thias F. Nespral and Dr. Cesar Mena. On the plaque were the seals of Indiana University and the University of Havana.

These Cubans in exile have made outstanding contributions to several fields of dentistry and research since their graduation from Indiana University.

Dr. Cesar Mena, following his graduation, served as an intern in the Florida Correctional Institution at Avon Park, Florida. He then served as a dentist in the Public Health Department at West Palm Beach, Florida, and in a similar capacity at Delray Beach. He currently is Director of Dental Services of the Dade County Department of Public Health. Dr. Mena is active in organized dentistry in Florida and has published four articles in scientific journals. Prior to entering Indiana University School of Dentistry, Dr. Mena received his dental and medical degrees from the University of Havana and was Associate Dean of the School of Dentistry.

Dr. Jorge Miyares was engaged in the private practice of dentistry in Havana and was a member of the faculty in the Department of Operative Dentistry at the university. He left Cuba in 1960 due to the Communist takeover and joined the staff of the University of Miami School of Medicine as a visiting professor of dentistry. Following his graduation from Indiana University in 1964, Dr. Miyares served a two-year internship at Sunland Training Center in Gainesville. He later joined the

Veterans Administration as a staff dentist and became Chief Clinician for the outpatient clinic and later Chief of the outpatient dental clinic. At present, he is Assistant Chief of Dental Services for outpatient care. He is active in civic organizations and serves as a part-time member of the staff at St. Petersburg Junior College for Dental Hygiene.

Dr. Thias F. Nespral, following her graduation in 1966, entered the private practice of orthodontics in the San Fernando Valley in Southern California. As Dr. Nespral reported recently, she had no difficulty being accepted by her fellow practitioners as a "lady orthodontist." She has been active in the San Fernando Valley Dental Society and is President of the Cuban Dental Society in California.

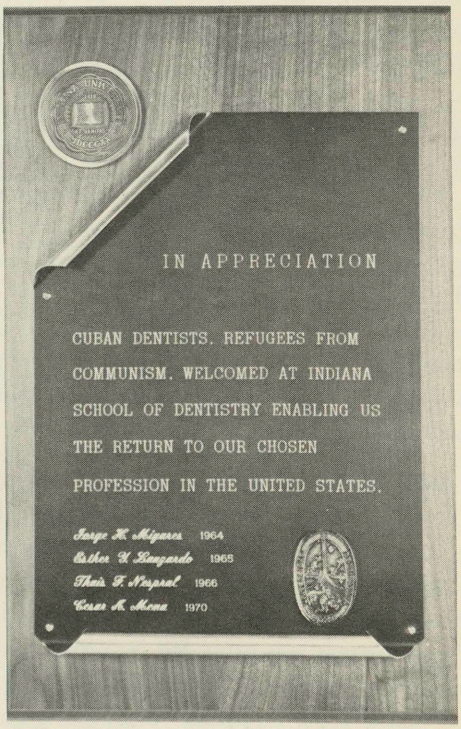
Dr. Esther Lauzardo also practiced general dentistry in Havana until 1960. She attended Indiana University School of Dentistry from 1962 to 1965 and then returned to Florida and passed the state board examination. She worked at the Southeast Florida Tuberculosis Hospital for a time and currently resides and is practicing in Coral Gables, Florida.

Faculty Recognition

Since I last reported to you, several members of the faculty have received national and international recognition for their achievement while others have assumed additional administrative responsibilities in the School of Dentistry.

Dr. James R. Roche, Professor of Pedodontics and formerly Chairman of the Division of Graduate Pedodontics, has been appointed to a new position of Assistant Dean for Faculty Development. In Dr. Roche's new assignment, he will assist the Dean and departmental chairmen in recruiting faculty members and conducting indoctrination programs. He will also be responsible for inservice education and will assist faculty members in formulating educational objectives and standardizing procedures of educational measurement and

Dean Ralph E. McDonald receives plaque from Dr. Cesar Mena (center) and Dr. Jorge Miyares



Plaque Presented to IUSD by Cuban Dentists

evaluation. In addition, he will help faculty members develop a balanced program for effective teaching, research, and public service. Dr. Roche has also been appointed by the University Administration to serve as a member of the Tenure Advisory Committee for the Indianapolis and Bloomington Campuses. In addition, he has been asked by President Ryan to serve on the Indiana University Distinguished Teaching Committee.

Three Indiana University Periodontists were in the spotlight at the recent annual meeting of the American Academy of Periodontology in San Francisco. Dr. Timothy J. O'Leary, Chairman of the Department of Periodontics and a Fellow of the Academy, delivered the Presidential Address as outgoing head of the organization. He is the only person ever to serve concurrently as President, Chairman of the American Board of Periodontology, and Editor of the Journal of Periodontology. Dr. Henry M. Swenson, Professor of Periodontics and a former Academy President, was designated as a Fellow of the Academy. Only 18 persons have been so honored since the Academy was founded in 1914. Dr. Maynard K. Hine, likewise a Fellow of the Academy and a former President, escorted Dr. Swenson to the podium for the ceremony. A former Dean of the Dental School and first Chancellor of IUPUI, Dr. Hine is now Special Consultant to President Ryan and Executive Associate of the Indiana University Foundation.

Dr. Hine, who is President of the Federation Dentaire Internationale, was made an honorary member of the Greek Stomatological Society at the recent Annual Dental Congress which was held in Athens. This Congress was attended by representatives of over sixty countries and included a series of seminars, panel discussions and lectures on a variety of dental subjects given by speakers from throughout the world. One of the sections was conducted

Dr. Jacob K. Berman

Professor Marjorie L. Swartz

by Dr. Paul E. Starkey, Professor of Pedodontics.

Dr. Hine also delivered the 5th Annual Memorial Lecture of the American Society of Dentistry for Children Foundation at the Society's annual meeting in Las Vegas.

Professor Marjorie Swartz was awarded one of five honorary memberships given by the American Dental Association at the annual meeting in Las Vegas. She is one of the few women ever to receive the honor which is given by vote of the ADA House of Delegates to individuals who have made "outstanding contributions to the advancement of the art and science of dentistry." Professor Swartz also is a consultant to the National Institute of Dental Research and a Fellow of the American College of Dentists.

Dr. Charles W. Gish, Director of the Dental Division, Indiana State Board of Health, and Associate Professor of Pedodontics, was presented the Distinguished Service Award of the American Association of Public Health Dentists at the group's annual meeting held in conjunction with the American Dental Association convention at Las Vegas. The award, last conferred more than three years ago, is presented for outstanding achievement in public health dentistry. Only four other persons have received the award. Dr. Gish has served the AAPHD in a variety of capacities, and is a consultant to the Indiana Dental Association and an advisor to national dental care groups, including the American Fund for Dental Health.

Dean Ralph E. McDonald has been appointed Secretary and a member of the Board of Directors of the Indiana Partners of the Americas. There are 46 Partners organizations in 43 states and in 18 Latin American countries. The program, supported by the State Department and the Ford Foundation, has been developed to provide assistance in the areas of health, education, and agriculture. Indiana's sister state in Brazil is Rio Grande Do Sul. Dean McDonald also has been named Secretary of the Administrative Board of the Council of Deans of the American Association of Dental Schools.

Dr. Ralph W. Phillips, Associate Dean for Research, was presented with the William John Gies Award of the American College of Dentists at the organization's annual meeting in Las Vegas. The award is given annually to a person who, in the view of the Board of Regents, has made "unusual and significant contributions" to the dental profession. It is the organization's highest honor. In February, Dr. Phillips received the Hollenback Memorial Prize of the American Academy of Operative Dentistry.

Dr. Phillips also participated in the making of an educational film on preventive dentistry which received the Silver Award (second prize) in the medical/dental field at the International Film Festival in New York recently. The 20-minute film, entitled "Dimensions in Preventive Dentistry—Update on Sealants," depicts the use of plastic adhesives to protect the chewing surfaces of the teeth against decay-causing bacteria. The film will be used as a teaching aid at universities and dental societies throughout the world.

Dr. Varoujan A. Chalian, Chairman of Maxillofacial Prosthetics, has been appointed a member of the National Cancer Institute Division of Cancer Control and Rehabilitation.

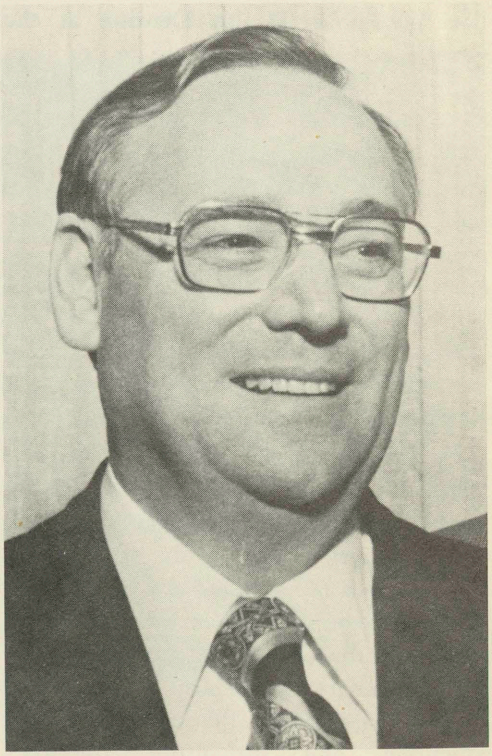
Associate Dean Robert L. Bogan is serving as President of the Marion County Cancer Society. Dr. Varoujan Chalian is a member of the Board of Directors.

Associate Dean Ralph W. Phillips joins me in announcing the appointment of Dr. W. Keith Moore, as Associate Profesfor of Dental Materials, effective April 1, 1977. Dr. Moore received his Baccalaureate degree from Phillips University in Enid, Oklahoma, a Master of Science Degree in Physics from the University of Illinois, and a Ph.D. Degree in Metal-

lurgical Engineering from the University of Illinois. Dr. Moore has had vast experience in research at Phillips University, Oak Ridge National Laboratory, with the Continental Oil Company, and at the National Institutes of Health where he was a postdoctoral trainee. For two years, he was a member of the faculty in Dental Materials at Northwestern University prior to joining the American Dental Association in 1973 as Chief Research Scientist, Division of Bio-Physics. Dr. Moore will bring a new research dimension to the Department of Dental Materials with his interest in the optical properties of dental restorations, specifically porcelains under short-wave length elimination. He is a co-investigator on an FDA contract to study the use of an intra-oral source in dental radiography, including radiation dose measurements and quantitative and qualitative measurements of radiographic MH quality. In addition to the dental associations in which Dr. Moore holds membership, he is a member of the American Association of Physics Teachers, the American Society for Metals, and the Association for Computing Machinery. Dr. Moore will have responsibilities in teaching dental students, dental auxiliary students, and graduate students, in addition to his research activities.

Dr. Richard D. Norman resigned in June, 1976 to accept an appointment as Director of Dental Clinical Research with the Johnson and Johnson Company. Many alumni will recall that Dick entered dental school after he was well established in his first career as an analytical chemist with the Eli Lilly Company. Following his graduation from dental school in 1958, he joined the faculty in the Dental Materials Department. His excellent contributions to research and his more than 30 publications in scientific journals established him as an internationally known authority in the field of dental materials. In his new responsibilities, Dr. Norman will be responsible for guiding the dental research

Dr. Richard D. Norman



Dr. Ronald M. Patterson

program at Johnson and Johnson. Dick returns to Indiana several times each year to follow the progress of several clinical studies he initiated. We look forward to continuing to work with him as he assumes new and responsible activities in industrial research.

A Missionary Adventure

During the American Dental Association meeting in Las Vegas, Nevada, Dr. Ronald Patterson (1964) visited his friends in the Alumni Association hospitality room. He related a story that I want to share with all alumni of our school:

> It was a hot day (112 degrees F.) on July 1, 1975, as Dr. Ronald M. Patterson, his wife and four children (ages 7 thru 18) drove into Las Vegas, Nevada, to begin an exciting, unrelenting three-year, faith-promoting adventure in missionary work among saints and sinners with headquarters in "Sin City" itself, even fabulous and notorious Las Vegas, Nevada. The call to the mission came in February of 1975 when Dr. Patterson was called by President Spencer W. Kimball of the Church of Jesus Christ of Latter-Day Saints (Mormons) to preside over the Nevada Las Vegas Mission beginning July 1, 1975. Dr. Patterson related that a call such as this is one of the highest honors that can come to a member of the Mormon faith. It demands costly sacrifice and great devotion. As there is no paid Ministry in the Mormon Church, the call meant three years at one's own time and expense as it is full-time ministerial work.
>
> President Patterson supervises and guides the activities of 170 full-time missionaries in Nevada who also give two years of their lives at their own time and expense doing missionary work. The mission includes 60,000 members of the Mormon faith plus L.D.S. churches on seven Indian Reservations.
>
> The missionary work itself is a seven-day-a-week affair with no vacations or break throughout the three years. The weekends are the heaviest as the meetings and speaking engagements are demanding, many and varied. Congregations range from 20 people to as many as 2,000. In all, there are 126 separate wards (congregations) and branches throughout the mission.
>
> Nevada has been an exciting experience for the Patterson children. They love the schools and the desert. Clint, the Patterson's oldest son, attended the University of Nevada at Las Vegas for one year before his call came to serve a full two-year mission in Australia. This call was readily accepted by him and he writes of many unique experiences in Australia.
>
> Upon acceptance of this call, Dr. Patterson sold his busy General Dentistry practice in Indianapolis to Dr. William Matthews (Class of 1972). He had practiced at that time eleven years in Indianapolis. To some, this may seem an extreme sacrifice but serving the Lord as a Missionary was not new to Dr. Patterson. After serving in W.W. II and two years in College, Dr. Patterson was called by the Mormon Church as a young man to serve a two-year mission. He greatly loved his first mission and the work of the ministry. Throughout his life, he has served in many prominent Church callings in Indiana where the Pattersons have lived for twenty-two years.
>
> When the missionary call is over, a call which has greatly enriched and blessed their lives, the Pattersons will return to the State of Arizona or Utah where Dr. Patterson will resume his professional calling as a dentist; that is unless . . . the Lord calls again.

Dr. Hohlt To Retire

It is with regret that I announce the retirement of Dr. Frederick A. Hohlt on June 30, 1977. Fred is a 1934 graduate of Indiana University School of Dentistry and was in general practice in Indianapolis from 1934-1949. From 1949-1952, he served as a part-time instructor in the Operative Dentistry Department. Since 1952, Dr. Hohlt has served as a full-time teacher in operative dentistry and on June 30, he will complete 25 years of service to the University. He served as Acting Chairman of the Department of Operative Dentistry from 1970 to 1971.

Dr. Hohlt's older son, William F. Hohlt, is a graduate of Indiana University School of Dentistry and practices orthodontics in Indianapolis. A younger son, James, is basketball coach at Perry Meridian High School.

Dr. Frederick Hohlt has been interested in athletics for many years. He organized the Southport Little League in 1951. He was also instrumental in developing the

Pony League and Babe Ruth League in the community. He coached the Van Arsdale twins who were basketball stars at Manual and are currently playing professional basketball with the Phoenix team. He also coached Louie Dampier, who later made an excellent record in basketball at the University at Kentucky and now plays with San Antonio.

Dr. Hohlt's Pony League baseball team won the state title. His Little League teams went to the state finals on two occasions.

Dr. Hohlt was a member of the Board of Directors of St. John's Evangelical Church and currently serves as an elder in the Southport Presbyterian Church.

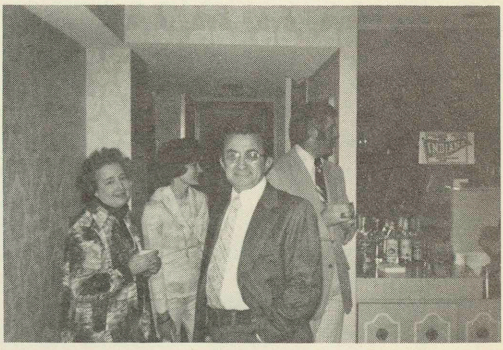
Many years ago, Dr. Hohlt was one of the first in this area to make mouth-pieces for high school football players and at one time provided mouthpieces for all members of the Indiana University team.

For many years, Dr. Hohlt's actual student contact time in the operative dentistry clinic approached 40 hours each week.

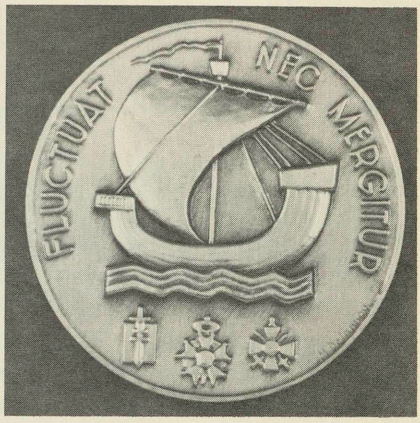
His former students will remember him as an excellent clinical teacher. They have often referred to him as "dedicated, demanding, intellectually honest, and the type of instructor we need in every department."

We wish Fred and Bertha health and happiness in their retirement years.

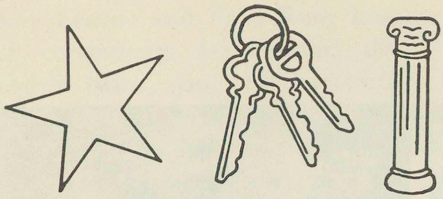
Dr. Frederick A. Hohlt



Alumni Room—Chicago Mid-Winter Meeting



Dr. Maynard K. Hine and mementoes.



Paul E. Starkey

OUR BRASILIAN ADVENTURE

The first edition of this column was way back in the Spring of 1961. Throughout all of these years I have avoided any report of personal experiences. But now's the time, as I have just completed an adventure that I want to share with you and after all these years, feel "entitled."

Two years ago, from April 19 to the 25th, 1975 Dean Ralph McDonald and I shared in the presentation of a continuing education course in pedodontics for the Fourth Brasilian Congress of the Federation of National Odontologists in Rio de Janeiro, Brasil. Dr. Roberto Vianna, who earned an M.S.D. Degree in Pedodontics from Indiana University School of Dentistry in 1971, was a member of the program committee and had invited us to this meeting and to give the course. At the end of that week Dean McDonald and I, accompanied by our wives Sarah Jane and Arlene, traveled to Porto Alegre, Rio Grande do Sul, to meet with the faculty of the Federal University of Rio Grande do Sul School of Dentistry. Rio Grande do Sul is the southernmost state in Brasil and approximately 600 miles south of Rio de Janeiro. Our visit to this University was sponsored by "THE PARTNERS OF THE AMERICAS." Let me tell you about the "Partners."

This organization had its beginning about the end of President John Kennedy's administration. It actually was "JFK's" idea and began under the auspices of the Alliance for Progress. This was an alliance among the governments of the Americas to promote social and economic improvements. Today it is a private non-profit organization with the majority of the activities coming from volunteers. Funding comes from some large businesses and other sources, but this is used primarily as "seed" money to encourage involvement of more people in the program. It no longer is a government operation and this is important to understand its activities. Within this organization are many volunteer chapters and many of the states of Brasil are paired with states in the United States. Rio Grande do Sul is a sister state of Indiana and perhaps now you can begin to get some idea of why we were visiting Porto Alegre. We were to talk with people at the University of Rio Grande do Sul to "explore" what potentials existed for an educational exchange between that University and the universities in Indiana. Incidentally, the Partners conduct exchange programs in agriculture, health, rehabilitation, sports, community development, cultural, and a host of other areas in addition to education.

We met with the President of the University and then with the Dean of the Dental School and many of the faculty. We spent one afternoon with the Curriculum Committee discussing our changed curriculum at IUSD and their current curriculum. We visited their Audiovisual Department and, of course, toured the rest of the School. The School had just obtained a videocassette tape recorder and playback unit and they were very interested in learning how we have used educational TV at IUSD. Later we also met with some of the faculty at the business school as they also wished to discuss

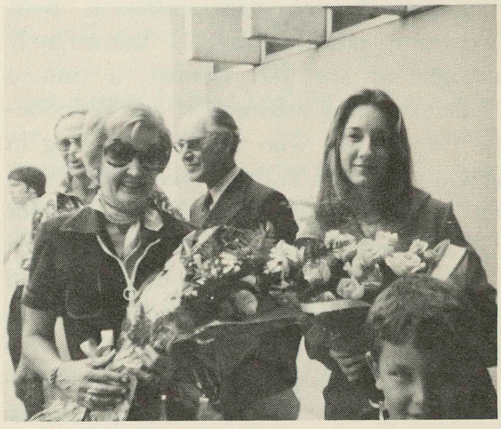
a possibility of some exchanges with Indiana University.

One of the recommendations which came out of our visit to the Federal University of Rio Grande do Sul School of Dentistry was a result of the expression of some of the key faculty people and the Dean. They said they would like to have a course in pedodontics for pedodontic educators within the state and also would like to include as participants some of the pedodontists in the area.

Well, after much deliberation and a tremendous amount of planning, it was finally decided that I should return to Porto Alegre during the month of January 1977 and provide this course. As some of you know, several years ago I developed and tested an automated pedodontic preclinical technique course. If you are interested in the details of this course refer to the JOURNAL OF THE INDIANA DENTAL ASSOCIATION (53:13-17, May-June 1974; and 54:13-16, July-August 1975). I planned to present this automated course to pedodontic educators and other pedodontists so that they might learn the techniques we are teaching, but, more important, so that they might be exposed to a very modern and effective method of teaching the discipline. In addition, I was to do some lecturing as well as clinical demonstrations.

During the more than a year of planning for this visit, I had been in constant contact through the mail, by phone and telegraph with Dr. Gilberto Hanke. Dr. Hanke received his Master's Degree in Crown and Bridge from IUSD in 1968. Not only did he take home a Master's Degree from IUSD, but he also took home a beautiful bride. Rita, a native of Puerto Rico, was here at IUSD doing graduate study in preventive dentistry at that time and the two fell in love. Gilberto says that that still was the greatest thing that happened to him while he was here at Indiana. Well, during this year of planning Gilberto became President of the

Air view of Rio de Janerio.



Mrs. Starkey and Ms. Jeri Gruner receive flowers on arrival at airport in Porto Alegre.

Dr. Starkey and Malvena Rosa, librarian at the dental school.

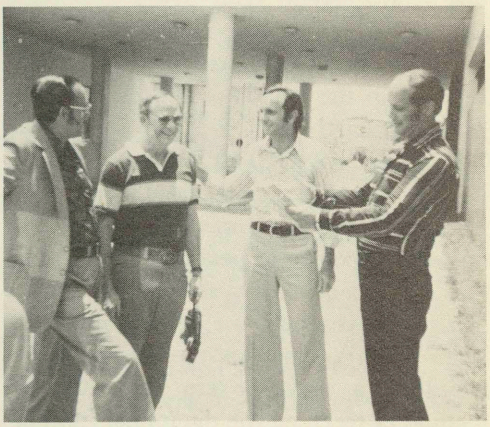
Partners in Rio Grande do Sul. He suggested that if possible, it would be great if we could bring along a trained chairside dental assistant so that we could demonstrate four-handed dentistry techniques. Very little four-handed dentistry is practiced in Brasil and Gilberto had been exposed to the discipline when he was here and was anxious to have his colleagues learn about the impact of four-handed dentistry on the profession in the United States.

I was delighted with this idea and immediately contacted Dean McDonald and the Partners in Washington, D. C., to see if it could be arranged for us to take along a trained chairside dental assistant. Both responded positively and I immediately thought of Ms. Jeri Gruner, a trained chairside dental assistant in our Pedodontic Department who also has training in expanded duties. But what really interested me about this idea was that Jeri has for several years been very much involved with the automated technique course and would be a tremendous help to me in providing this portion of my program. She could work with me as a trained chairside assistant as we demonstrated clinical techniques on patients and would also be able to participate in some of the lecturing on DAU.

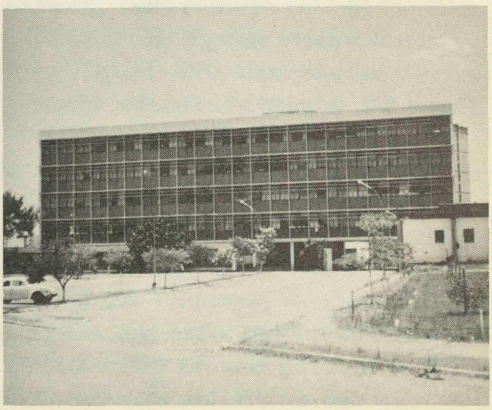
Well, it wasn't until around the first of December 1976 that all systems appeared "Go," and we began to get excited. Christmas zoomed by and before we knew it, January 3, 1977 was here and Arlene, Jeri and I were being taken to the airport by Jean Avery, Dr. David Avery's wife.

I had one little trepidation about leaving, however. I own a two-year-old Labrador retriever who has a hang-up. She's an inveterate frisbee chaser and just as good as that dog you've seen on television. She was due to whelp two days after we left and to have her first offspring. I had taken her to my brother-in-law in Ohio and wondered how long it would be before I would hear how she made out.

It was near zero when we left Indianapolis. We had a plane change in Atlanta and another in Miami. We arrived in Brasilia, Brasil about 7:00 A.M. on January 4 for plane refueling. Brasilia is the capital of Brasil and is a beautiful modern city only 15 years old. All of the buildings are very modern and the surrounding countryside is lush green. We wished that we had an opporunity to visit the city but we were confined to the airport and soon left for Rio where we arrived about 9:30 that morning. We were to leave for Porto Alegre at 11:30, just two hours away.



Dean Louro, Dr. Starkey, Dr. Ferrao and Dr. Hanke.



New dental school, Federal Unniversity of Rio Grande do Sul.

Our good friend Dr. Roberto Vianna was there to meet us. Roberto talked to the Customs officials and explained that I was a visiting professor. It was then I learned that being a professor seems to mean more in Brasil than in the United States, because we skitted right through Customs without the officials even opening a bag. On the other hand, maybe it was just because Roberto is such a fast talker. We had to transfer to a different airport and Roberto took the three of us in his car, a Brasilia (a small Volkswagen station wagon manufactured in Brasil), to the other airport where we checked in for Porto Alegre. Then, since we had more than an hour left before departure, Roberto drove us across Guabavara Bay Bridge to Nitori where we could sit at a sidewalk cafe and have a Coke. From that beautiful vantage point we could see Sugar Loaf Mountain and a beautiful impressive statue, Corcavado Com Cristo Redentor, which dominates all of Rio. We had seen these beautiful sights two years earlier but Jeri was seeing them for the first time. Those Cokes really tasted good because the temperature was in the high 90's and we couldn't help remarking that just the afternoon before we had left Indianapolis' zero weather.

The trip back to the airport was filled with rapid conversation as Roberto had invited us to spend a few days with him at his beach house south of Rio on our way back several weeks later, and we wanted to firm up plans as much as possible. Our plane departed Rio at noon and we were on the last leg of our journey from Indiana to Rio Grande do Sul.

Typical of the Brasilian way of greeting and warm hospitality when we arrived at the airport in Porto Alegre, there was a large contingent to greet us: Dean Paulo Louro; Gilberto and Rita Hanke; the Chairman of the Social Dentistry Department, Dr. Eduardo Barros; the Chairman of the Pedodontic Department, Dr. Argolo Ferrao, and his wife; the Chairman of the Department of Pedodontics from the Catholic University and his wife; several young women dentists who would be serving as interpreters, and several other members of the faculty. I was pleased that Claudio Santos, a very active member of the Partners of the Americas and a friend I had met two years earlier, was also there. Enlarging the group were a number of children of those who were there to greet us. They presented a bouquet of roses to Arlene and one to Jeri. The airports in Brasil are always crowded and now you know why. Nevertheless, this custom certainly has an impact on a visitor and he genuinely feels welcome.

After about 15 minutes of greetings, meeting old friends and meeting new ones, we were placed in the Dental School's station wagon and transported to the hotel where we would be staying, the Hotel Embaixador, right downtown in Porto Alegre. It was now about 2:30 on Tuesday in the afternoon and we hadn't been to bed since Sunday night. We were told that several couples would be back that evening to have dinner with us in the hotel and discuss our plans for the next three weeks. I don't believe I have ever experienced a busier three weeks in my life but it was all very beautiful and rewarding.

I have only reported thus far the events which led up to our Brasilian adventure and our journey from Indianapolis to Porto Alegre. Next time I will tell you about the great experience we had with the students in our course, the "special" evening course we held for about 18 local dentists interested in four-handed dentistry, the patients I treated, the reception of our automated teaching methods, our visit to the American Consulate's office, our visit with the Secretary of Health (a dentist), and our weekend R and R periods.

Dental Auxiliary Education

James E. Vaught, Assistant Dean for Dental Auxiliary Education

As this article is written, Indiana is captured by the most severe winter weather in history, and just the thought of a "Spring issue" is comforting. The most recent "event" in Dental Auxiliary Education in Indiana occurred in January when the dental hygiene and dental assisting programs at Indiana University Northwest (Gary) hosted a site visit for accreditation. Dr. Farrell and the entire staff at Gary were well prepared for the visit and they received specific commendation from the visiting committee. The accreditation status of the programs will be announced following the May meeting of the American Dental Association, Council on Dental Education.

At the School of Dentistry in Indianapolis, the dental hygiene program has initiated a new field clinical experience in Oral Cancer Detection. The program coordinator is Ms. Shermie Schafer, Instructor in Dental Hygiene. Ms. Schafer has been a full-time faculty member for 2½ years and prior to her appointment at the school she had eleven years experience in private practice. Ms. Schafer has designed the program to include field trips to Marion County Nursing homes where senior dental hygiene students provide oral cancer examinations for the residents. Eight students on each visit are accompanied by Ms. Schafer and a resident in the School of Dentistry's Graduate Program in Oral Surgery, Oral Pathology, or Oral Medicine. The residents provide assistance in the screening process and the initial diagnosis of suspicious lesions. The nursing home physician and administrator are advised of any cases requiring follow-up biopsy or care. The screenings are conducted at the bedside or at the facility clinic. Ms. Schafer reports that the nursing home staffs have been very cooperative and helpful. The experience in cancer detection is extremely valuable, as is the experience in dealing with the geriatric patient. Patients range in age from 60 to 100 and most are 80-90 years of age. In addition to the screening examinations, the hygiene students provide oral health care instruction for the patients. The hygiene students are given special instruction in performing oral cancer examinations prior to the field visits. The dentist resident provides a discussion of the conditions identified, and this is direct application of the lecture course in Oral Pathology. This new experience has been made possible by the efforts of Dr. William Shafer, Distinguished Professor and Chairman of Oral Pathology, and with financial assistance from the National Cancer Institute.

DENTAL HYGIENE

Evelyn Oldsen

While the Dental Hygiene Admissions Committee is busy with their responsibilities in selecting the next entering class, both classes of dental hygiene students are assisting us with their plans for Dental Hygiene Day to be held April 16, 1977. This project was initiated last year as a means of acquainting applicants with our program. The students planned their mini table clinics which included information on housing, financial aid, textbooks, schedules, as well as a tour of the Dental School. Of particular interest to applicants was the Dental Hygiene Clinic where students demonstrated procedures for patient care and their instruments. It is hoped this event will continue as an annual project as student input in recruitment is a valuable asset.

The second semester has been a busy time with second year students planning for national, regional and state boards and looking forward to their first position as a dental hygienist. First year students were excited to have their first "real" patient; becoming accustomed to the clinic routine, proficiency exams plus their course schedules has kept them very busy.

Of possible interest to graduates of the Associate Degree program are recent revisions in the Baccalaureate programs. The Division of Allied Health Sciences of the School of Medicine offers the Public Health Dental Hygiene Program which is currently being revised with emphasis on the utilization of a dental hygienist in health-oriented settings such as community health agencies, dental and dental auxiliary schools, public schools, research facilities, government agencies, industries and public and private health centers. In addition, a new Bachelor of Science degree in Allied Health Occupations Education has been approved with students selecting one of two tracks, Health Occupations Education or Middle Management Administration. We are currently providing student teaching experience for students enrolled in both programs.

DENTAL ASSISTING

Marjory H. Carr

Twenty-nine dental assisting students and two special students were selected for admission to the 1976-77 class at the Indiana University School of Dentistry. In the past, the majority of the class have come from the Indianapolis area; however, this year only one-third of the class is in this category. Other towns represented are: Alexandria, Anderson, Brookville, Brownstown, Chesterton, Frankton, Greenfield, Greensburg, Jeffersonville, Kokomo, Lebanon, Monticello, Russiaville, Washington, D.C., and West Lebanon.

The 1976-77 class elected the following officers: President—Debbie Roberson, Speedway; Vice President—Denise Hubbard, Monticello; Secretary—Lynn Cheshire, Indianapolis; and Treasurer—Kim White, Greenfield.

The first semester Dean's List includes Debbie Roberson-4.00; Margaret Morrison-3.79; Patrice Kimche-3.75. Congratulations for a fine beginning!

There have been some changes in the Dental Auxiliary Education office staff. Mrs. Twila Chapman, who has been with the School of Dentistry for 13 years, first as secretary in the Dental Hygiene Department, then in our office for the last four years, will now work exclusively as secretary to Dean James E. Vaught and in the coordination of the state-wide regional campus programs. We are happy for Twila in her new position. Miss Tia Timothy joined our staff in September as a department secretary and also shares responsibilities with the Expanded Functions Program and the new Oral Cancer Screening Examination Program. We all appreciate her typing skills and her ability to adapt quickly to a busy routine. With these new changes, when you call the Auxiliary Education office, Tia will be handling all the incoming calls intead of Mrs. Chapman. We are all glad to have you with us, Tia.

The students are busily preparing for their table clinic presentations for Table Clinic Day at the School of Dentistry on March 18, and at the Indiana Dental Assistants Association meeting May 8, 1977, at the Convention Center.

In no time at all the day each student looks forward to will be here—graduation; and another successful year for the dental assisting education will draw to a close.

DENTAL AUXILIARY EDUCATION

George C. Smith

James Bell wrote, "To face tomorrow with the thought of using the methods of yesterday is to envision life at a standstill. Even that which we now do well must be done better tomorrow."

Those words express the philosophy of the auxiliary programs at the Fort Wayne Campus. At the same time, it is recognized that "change for the sake of change" is dangerous; one must heed the words of Mr. Bell if progress and improvement are to be realized. With this in mind, many changes have been made during the last two or three years which seem to have resulted in considerable improvement. The major change was the adaptation of the "Michael" or "Modular" system of teaching methodology. This system has not only given us a basis for organization within the academic areas, but also improved the performance of our hygiene students as determined by their performances on the State and National board exams.

Another major change involves our hygiene clinic. The installation of new chairs and operating units has changed the appearance and effectiveness of the clinic, hopefully affording the opportunity to teach current updated methods of operation.

The two changes mentioned have been the major ones, but there have been many others in all programs. Our efforts will continue as we strive for improvements as opportunity presents itself and in accordance with the needs of the dental profession.

DENTAL HYGIENE

Gloria Huxcll

The weather at this time is setting a new all-time low, but in Fort Wayne we are looking forward to an all-time high of another kind. Our remodeled clinic is scheduled to get two more new units with individual dividers, bringing us to four complete operatories for four-handed dentistry. We were doing double time this fall to catch up on requirements once our clinic was completed. Moving back into the remodeled quarters was a project to which the second year students assigned themselves. Their specialty was working with soap and water, polishing furniture, and stacking boxes, as they were most anxious to return to the scalers and Red Cote. We really appreciated their sincere help and most of all their enthusiastic attitude—its TEAM efforts all the way.

We returned to classes this fall with nineteen second year students and twenty first year students from such cities as Huntington, Plymouth, Orland, Columbus, Winchester, Warsaw, Kokomo, and Fort Wayne, Indiana, and San Diego, California.

Miss Daryle Labs joined our dental hygiene faculty as Clinic Supervisor, coming to us from our neighboring State of Michigan. Also Mrs. Lynda Moryl joined us for the spring semester and instructs our students in the Practice of Community Dental Hygiene. She will spend nine weeks with them in Wabash, Indiana, starting late in February.

The Junior Chapter of the American Dental Hygienists Association again participated in the November Penny Carnival, which is a philanthropic campus project. The students repeated past performances by receiving the trophy for presenting the "most creative" entertainment booth out of a dozen participating organizations. They worked long hours together drawing, painting, sewing, as well as gathering prizes for the children who were guests on the campus.

This year the Capping Ceremony was held on December 12, 1976, instead of the usual January Super Bowl Day. It was difficult to tell who was the proudest—students, faculty, or parents. Dr. Lloyd Hagedorn, faculty member and practicing periodontist, gave the address, and his words were not only stirring and motivating for the students, but educational for the audience. Other local dentists who participated in the program were Dr. Wayne Dawes, who was Master of Ceremonies, and Dr. Irma Rumbaugh, who gave the Invocation and the Benediction. We are grateful for the local dental society's contributions to our program.

Once again the second year dental hygiene students team up to assist in National Children's Dental Health Week by covering some twenty classrooms in the community. Also they have worked with Mrs. Diane McGregor on special educational assignments, and their most inspirational group was the Hearing Impaired Classes at Hoagland School.

The first year students are well into their clinical activities and find working with the "real" patients most gratifying. They are teamed with the dental assisting students in the delivery of four-handed dentistry. Again the TEAM concept is being instilled in each of the auxiliaries as the only way to deliver good dental health care.

Four dental hygiene students, two from each class, received DUKE's Day Scholarships of $250.00 each. The grateful recipients were Kylee Baumle, Brenda Merkel, second year; and Judy Aumiller and Deborah Brownell, first year students.

DENTAL ASSISTING

Hilda Nofzinger

The dental assisting students will participate in Dental Health Week February 6 through 11 by going in pairs to a city school and giving presentations to third grade students on oral health care.

Mary M. Howell, Mary Kay Robinson, and Sandra M. Vigneaux were awarded DUKE'S Day Scholarships of $250.00 each in September.

This year we are developing a new plan for dental assisting and hygiene students utilizing concepts of four-handed dentistry in the clinic.

The students are beginning to make plans for the State meeting in Indianapolis.

The certification test will be given May 11 with graduation following on Thursday, May 12.

DENTAL LABORATORY

John R. Winings

In this Spring semester the second year dental technology students once again are participating in an intra-mural and an extra-mural program. Students select a specialty (such as crown and bridge) in each of these areas. In the extra-mural experience students are assigned to commercial and office dental laboratories for approximately eight hours per week. This gives students some practical experience and much insight into the profession. In the intra-mural experience, students work in the campus laboratory approximately twelve hours per week and construct cases that are sent in from various institutions. It is felt that both of these experiences add considerably to the student's training.

In conjunction with these two courses, each student is required to write a research paper in the corresponding area. This requires the student to study in some depth the latest research that is being produced, and it relates closely to the prosthetic areas in which the students are working.

DENTAL AUXILIARY EDUCATION SOUTH BEND

Frank N. Ellis

After six months with the Dental Auxiliary Programs in South Bend, several observations can be made with conviction. My first observation is that we are functioning with a high quality staff, both full-time and adjunct. The Dental Hygiene and Dental Assisting faculties are well qualified and remarkably skilled performers in their areas of competence. Second, the efforts of the adjunct faculty, supplementing the teaching activities of us full timers, give our programs breadth, keep our students in touch with the world of "real" dentistry, and give us the freedom to pursue many academic endeavors which would be impossible under other circumstances. Third, it is readily apparent that the South Bend program was initiated

and put into operation by an expert academic technician who was able to create two vital programs which meet every requirement of the Council on Dental Education in a reasonably short period of time. Dr. Alfred Fromm is to be commended for these accomplishments as the first Director of the programs. Fourth, the support given to the programs from the local dental community is nothing short of outstanding. Both as individuals and collectively, through the St. Joseph County and North Central Societies, the profession has done everything possible to boost our activities. The Dental Advisory Committee, ably chaired by Dr. Robert Meyer, has been an active and invaluable resource in providing counseling and acting as liaison between the programs and the society.

Our spaces are not nearly adequate for our programs. However, we have reasonable assurance that we will soon be allotted additional space in our present building.

Among other activities, I am serving as the South Bend adjutant to Dr. Robert Derry in the promotion of Continuing Education programs sponsored by the School of Dentistry. We are looking forward to the *Pharmacology and Therapeutics* program of Dr. Daniel C. Chin on 28 April and hope to present a Saturday program on *Dentistry in the '70's* with Dr. H. William Gilmore in early June.

Ms. Sandra Benson of the Dental Hygiene faculty spent a profitable week in Florida attending a course in Myofunctional Therapy preparing herself to supplement our instruction in facial muscle imbalances and swallowing problems. The Communication Arts and Physical Therapy people on campus have requested that she supplement their instruction in these areas.

We have a long way to go to achieve the ideal programs we are aiming for but there is a scent of success in the air and we are expecting big things of the future.

DENTAL HYGIENE

Bonnie Hamber

Holding to tradition, Ms. Rosemary Der Hagopian, accompanied twenty-one First Year Students to Indiana University School of Dentistry in November. The students spent an eventful day touring the dental school facilities, Oral Health Institute and the Indiana State Board of Health. We feel this is a very important aspect of their total dental education experience. In becoming familiar with the dental building and meeting some of the faculty the students feel more a part of the School of Dentistry.

We have added three adjunct personnel to our clinical staff this year. They are Dr. Keith Dickey, Mishawaka; Dr. Gary Gotsch, Bourbon; and Ms. Martha Moriconi, South Bend. They have brought innovative ideas to the students' clinical experience. Both faculty and students would like to welcome them aboard and express our appreciation for their interest and help.

We would like to recognize Dr. William McCloughan, South Bend, who has contributed many hours (completely without remuneration) to making our students' dental hygiene experience exciting and worthwhile. Since 1959 Dr. McCloughan has donated his Wednesday mornings to providing dental care for the mentally retarded children, many of whom are also physically handicapped, at the Northern Indiana State Hospital and Developmental Disabilities Center in South Bend. In 1970 dental hygiene students were assigned to Dr. McCloughan and under his supervision and guidance, they have learned how to manage and give oral prophylaxes to this type of patient. For seven years now Dr. McCloughan has worked with our students, not only providing care for the children at the hospital, but also sharing his knowledge and expertise with our students. He is to be commended for his devotion to his profession and his concern

and patience for students and patients. Dr. McCloughan, we thank you from the bottom of our hearts!

In Northside Recital Hall twenty-one First Year Dental Hygiene Students received their caps on January 16th. Elaine Bickel, a second year dental hygiene student, provided the music for the occasion and Jean Harris, a 1971 graduate of the Dental Hygiene Program at South Bend, delivered the message. Although the "weather outside was frightful" warmth and happiness prevailed within. Congratulations, Class of 1978!

And our new Director—Dr. Frank N. Ellis! We are so very pleased to have the kind leadership of this fine gentleman. Under his direction we are moving into an era of happiness and hard work—both of which we feel are prime requisites for not only a good program but a good life. We thank you for coming to South Bend to be our Director, Dr. Ellis.

DENTAL ASSISTING

Maureen S. Janesheski

Indiana University at South Bend had its Dental Assisting Capping Ceremony on January 14, 1977 with Mrs. Marjory Carr, Director of Dental Assisting at Indiana University School of Dentistry, as the principal speaker. Nineteen students were capped. Dr. Frank Ellis, Director of Dental Auxiliary Education at South Bend, presided.

The Dental Assisting students are very active this year in the public services area. They are working at Logan Industries, which is a sheltered workshop for the mentally and physically handicapped. The students are implementing a dental health education program. Our students also will be participating in Children's Dental Health Week by giving a "Brush-In" at the Studebaker School in South Bend.

With the advent of the Indiana State Dental Association Meeting in Indianapolis, many of our Dental Assisting students will be showing posters and giving papers and table clinics.

In one of our courses this year we will have many guest speakers who donate their time to discuss topics of interest to our dental assisting class. They are: Dr. Edward Lawton—Occlusion; Dr. Sam Wiersteiner—B.S. Degree in Education; Dr. James Eastman—Pedodontics; Dr. Michael Freid—Implants; Dr. James Macri—Orthodontics; Dr. Charles Rosenbaum—Dental Care for the Handicapped; Dr. Ralph Phillips—Dental Materials; Dr. Michael Feltman—Endodontics; Dr. Keith Dickey—Office Emergencies; nad Dr. Varoujan Chalian—Maxillofacial Prosthetics.

We would like to thank each of these gentlemen for giving us time from their busy schedules to speak.

DENTAL AUXILIARY EDUCATION EVANSVILLE

Gordon E. Kelley

We are now midway through the first year in which we have all three dental auxiliary education programs. This year we opened our long-awaited program in Dental Laboratory Technology and enrolled our first class of eight students. The laboratory is almost finished, with only minor installations remaining.

Our auxiliary faculty has changed and enlarged this year and we are looking forward to adding additional faculty next year. Everyone is very conscientious and they all are pitching in to help each other.

We now have our separate locker rooms completed and I am sure the students will enjoy the increased room we have available. We also have new storage facilities which make it possible to find all of our supplies much more easily. We no longer have to store supplies in corners and behind doors.

Our advisory committee is proving to be very valuable this year. They are helping us to locate faculty and also to evaluate our curriculum to help make it more relevant to the practicing dentists.

DENTAL HYGIENE

Chris Reising

December 11, 1976, marked the Sixth Dental Hygiene Capping Ceremony at Indiana State University, Evansville. Fourteen first year students received caps with a single lavender stripe, while the fourteen second year girls received their second stripe. Mrs. Anne Denner R.N., B.S., M.S., a part-time instructor of Life Science was guest speaker for the event.

Spring semester 1977 promises much community involvement for the dental hygiene students. They will be visiting eleven Title I schools in Evansville to provide dental health education and Brush-Ins as partial requirement for their community hygiene course. Other planned activities include nursing home inservice programs, cancer screenings and participation in Deaconess Hospital Tumor Clinics and Conferences. Second year students will also visit local dental offices to gain some insight into various aspects of dentistry.

DENTAL ASSISTING

Suzanne Schnacke

On January 6, classes officially began for second semester. However, school has been cancelled on several occasions because of the weather. Hopefully we will be getting back on schedule soon, if we ever thaw out.

We are looking forward to a very hectic second semester. We have several students hoping to participate at the annual meeting in May.

The Dental Assisting Graduation is scheduled for May 10 and their certification exam will be May 13. We also have two students who will be receiving their associate degree in dental assisting.

The time for selecting students is fast approaching and we plan to administer the dental assisting aptitude test three times. The dates will be Feb. 3, March 3, and April 2. In our selection process we will be using personal interviews, the rating system developed last year as well as the aptitude test.

DENTAL LABORATORY TECHNOLOGY

Paul Robinson

The inaugural semester of the Dental Laboratory Technology Program, at ISUE is over and we are studiously working toward the completion of the second. The first semester proved to be a learning experience to students and faculty alike. A case in point is when on a dental materials examination one of the questions asked was, "Define carat." One enterprising student wrote, "a vegetable eaten by Bugs Bunny".

A major undertaking for the spring semester is a revision of the Dental Laboratory Technology Curriculum. The almost insurmountable task we have is how to fit 90 semester hours of work into a 21-month course. To accomplish this objective we streamlined the program, trimming it of any excess fringe courses or combining course offerings. The curriculum was divided into four sections: General Studies, Preclinical Courses, Clinical Courses, and Post Clinical Courses. General Studies consists of chemistry, physics, social studies, humanities and business. Preclinical courses are made up of dental materials, dental anatomy and dental organization and ethics. The clinical courses are devoted to the study of complete dentures, fixed restorative techniques, removable partial dentures, maxillo-facial rehabilitation, and orthodontics/pedodontics. The final phase takes place in the last semester of training, consisting of a seminar, concentrated studies of advanced techniques and one eight week preceptorship (internship) in a private dental office or an institutional or commercial dental laboratory.

The faculty, staff, and students of ISUE Dental Laboratory Technology would like

to extend a cordial invitation to the alumni of our Dental School to tour our facilities any time, Monday through Friday.

DENTAL AUXILIARY EDUCATION NORTHWEST

Edward W. Farrell

Indiana University Northwest witnessed an excellent and well-planned capping ceremony for 11 dental assisting students and 10 first year dental hygiene students on Friday, December 10th. Special thanks must go to such able planners as Jennifer Hays, Emily Carr, Ruth Hopman, Katherine and Norman Mikrut. Honored guests included the Reverend Douglas R. Vander Wall, Dr. Marion Mochon, Dr. James Vaught, Dr. Paul Stephens and Mrs. Robert Vinzant. Dennis Johnson provided the music. Scholarship recipients included Audrey Machkovech and Susan Piasecki. The Women's Auxiliary of the Northwest Indiana Dental Society are to be commended for sponsoring these scholarships. This is a first and we are indeed appreciative of their generosity.

The long-awaited accreditation visit is over and life is slowly returning to normal. Faculty, staff and students, among others, are to be commended for the long-hours of preparation that went into this task. Hopefully the results will reflect in some small measure the excellent effort made by all concerned. We are especially indebted to those individuals who came from Indianapolis to assist: namely, Dr. John Buhner, Dr. James E. Vaught, and Michael Curtis. Our thanks as well go to Dr. Paul Stephens, Dr. Robert Moon, Dr. R. Dawson, Dr. E. Martin, Mrs. Linda Gruett, Mrs. Midge Keehne, Chancellor Orescanin, Mrs. Carla Hendricks.

DENTAL ASSISTING AND DENTAL HYGIENE

Jennifer Hays and Emily Carr

Many months of preparation were recently culminated in the accreditation site visit on January 17-19 for both programs. Students, administrators, and faculty were appreciative of the opportunity to participate in this most interesting and educational experience. We wish to take this opportunity to offer special thanks to all of those who participated in and contributed to our site visit.

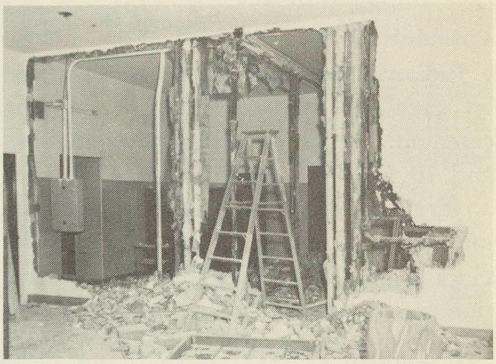
The students are looking forward to participating in the Chicago Dental Society Mid-Winter Meeting in February and the State Meeting in May.

More candid shots—Alumni Room, Chicago Meeting. Thanks Jack.

The Bookshelf

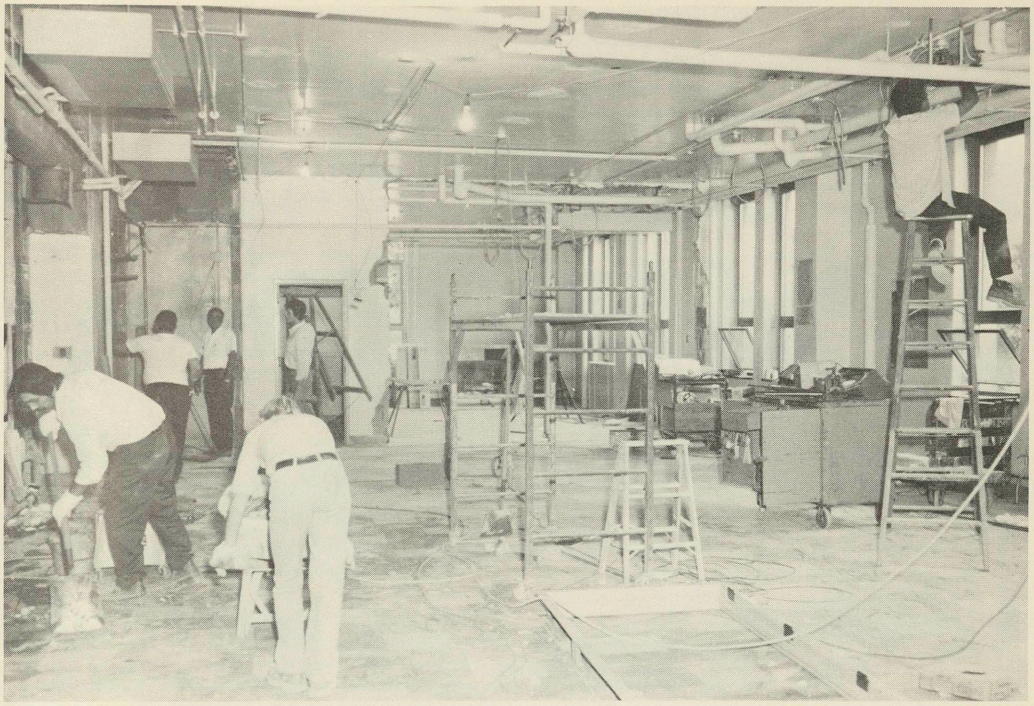
Helen W. Campbell, Librarian

The remodeling is almost completed. The carpeting is down, and the stacks were installed three weeks ago. The tables were delivered just two days before the "after" pictures were taken. With thanks to the Illustrations Department, we are able to show you how the Library looked before the remodeling began, during the construction work, and as it is in its almost-completed stage. Forty-seven new chairs are the only items yet to be delivered. The remodeling project began on May 6, 1976, and we are confident it will be finished before a year has elapsed.



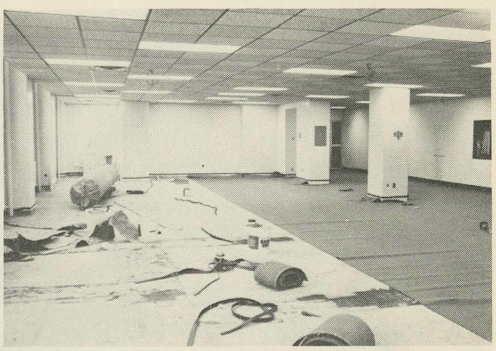
The walls come down.

As we were in 1976.

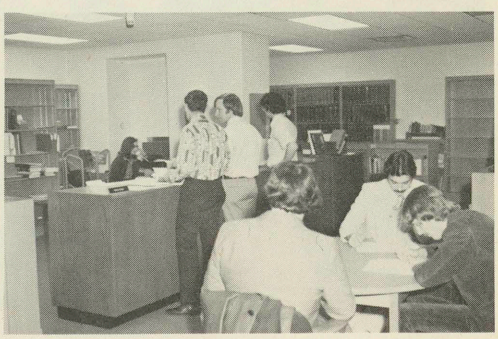


An impossible dream?

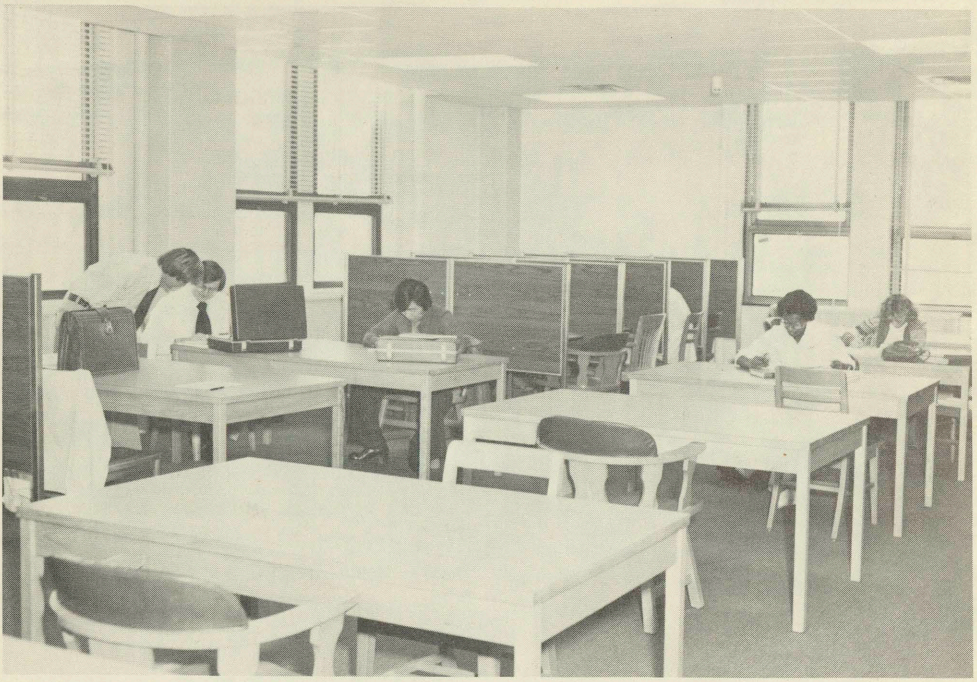
Some of the "leavings."



Wide open spaces!



Our new circulation desk.



"Quiet study"

New reading room
("Quiet study area" at left rear)

During the past year it has been "business as usual" and the following theses have been added to our collection:

PULP REACTIONS TO A TRICALCIUM PHOSPHATE CERAMIC CAPPING AGENT

Malcolm Edward Boone, II.

The purpose of the study was to evaluate a tricalcium phosphate ceramic (Synthos) for pulp capping. A preliminary study using subcutaneous implantation in rats was done to evaluate methyl cellulose as a vehicle for the ceramic and to determine the reactions to the ceramic applied as a coat over a polycarboxylate cement (Durelon).

Pulps of 48 permanent teeth in two monkeys were mechanically exposed. Experimental pulps were then capped with the ceramic powder or with the powder moistened with saline. Control pulps were capped with Durelon. All cavities were restored with Durelon. Each monkey received two doses of Procion red H-8BS for dentin labeling. Teeth were extracted at 15, 50, 100 and 200 days after capping. Decalcified 7 um thick sections were stained with H & E. Unstained sections were examined with fluorescence microscopy for Procion labeling. Selected slides were stained for bacteria (Brown and Brenn). Three teeth were excluded due to poor orientation or other reasons.

A total of 31 pulps were capped with the ceramic; of these 17 were satisfactory and 14 were necrotic. Of 14 pulps capped with Durelon, 12 were satisfactory and two were necrotic. Bacteria were demonstratable in all necrotic pulps.

Pulps that survived showed reparative dentinogenesis confirmed with Procion labeling. With the ceramic, reparative dentin was found around the particles, giving the incomplete bridges a "Swiss cheese" appearance in decalcified sections. With Durelon, reparative dentin was found on the pulpal walls adjacent to the exposure site and around dentin chips that were accidentally pushed into the pulps. Bridging was not complete in any specimen even at 200 days.

This study substantiates earlier findings with Durelon which did not stimulate reparative dentinogenesis at the exposure site. The low success rate with the ceramic as a pulp capping agent, covered with polycarboxylate cement as a final restoration, precludes recommendation of this technique for pulp capping.

THE EFFECT OF ANTILYMPHOCYTE SERUM ON DMBA-INDUCED SALIVARY GLAND TUMORS IN RATS

Steven Lynn Bricker

This study evaluated the effect of antilymphocyte serum (ALS) on DMBA-induced sa-

50 percent more shelf area.

livary gland tumors in rats. Forty Wistar strain young adult male rats were equally divided into two groups and each animal was implanted with approximately 5 mg of DMBA in carbowax into the right submaxillary gland. The experimental animals were injected with ALS 3 times weekly and the control rats were similarly injected with normal saline until sacrifice 12 weeks later. All the salivary glands were dissected free and studied in hematoxylin and eosin stained sections.

Five control rats developed squamous cell carcinoma that arose within the cyst walls. Two of the tumors had distant foci of invasion and the other three showed only incipient invasion. Four of the five tumors in the ALS-treated animals were highly anaplastic and invasive.

Findings of this study showed that immunosuppression did influence the malignant character of the induced tumors. The tumors in the experimental animals were more anaplastic and invasive.

AN IN VIVO AND IN VITRO STUDY OF THE MATERIALS AND METHODOLOGY OF THE SARGENTI TECHNIQUE OF ENDODONTICS

B.D.K. Brown

The purpose of this study was threefold: 1) to evaluate tissue response in vivo to the current version of the N2 formulate, termed RC-2B and TCM, through a histopathological examination of subcutaneous tissues; 2) because of their toxicological ramifications, to determine whether RC-2B and TCM have any systemic toxic effects on various organs of the rat; and 3) to determine the role that an "apical plug" might play in the Sargenti technique of endodontics.

Twenty-five Sprague Dawley rats were used in the tissue response study. Each animal received implants of the materials to be tested. Animals were subsequently sacrificed at 2, 16, 30, 90 and 180 days. Microscopic evaluation revealed that RC-2B and TCM produced a coagulative type of necrosis with mild inflammation. This was observed for all time intervals.

Twenty Sprague Dawley rats were used in the second part of the investigation. Sixteen rats received implants of the materials tested. Four rats received no surgery. Animals were sacrificed at 16, 30, 90 and 180 days. The adrenal gland, kidney and liver were removed and fixed at autopsy. Microscopic examination of these organs revealed no alteration at the cellular level when compared to the controls.

In the third part of this investigation, a root canal prepared using the Giromatic endodontic handpiece according to the directions prescribed by Sargenti had greater periapical leakage of Ca^{45} than a root canal prepared with endodontic files and conventional technique irrespective of the root canal filling material. Scanning electron photomicrographs of representative specimens revealed the presence of an "apical plug," the exact nature of which could not be determined by SEM alone. Follow-up histology on the apical plugs revealed some fibrous connective tissue in one root canal prepared with Giromatic; however no definite conclusions as to the remaining plugs could be made.

PERPIAPICAL RESPONSE OF ENDODONTICALLY TREATED TEETH USING FILLING MATERIAL RC-2B

Charles M. Cohler

The purpose of this study was to evaluate the periapical response of vital and non-vital teeth to Sargenti's materials and technique. Two **Macaque speciosa** monkeys were used. In each monkey, teeth on the right quadrants were used as untreated controls and the left quadrants were treated. Alternating teeth (lateral incisor, first bicuspid and first molar) were used in each quadrant. Pulps of the pulpitis control group were exposed to the oral environment 48 hours before sacrifice, while the necrosis control teeth were exposed to the oral environment for two months and then sealed with amalgam for one month prior to sacrifice. No treatment was done on the control teeth.

The procedures prescribed by the American Endodontic Society and Sargenti were used on the endodontically treated teeth. One-half of the treated teeth were necrosis cases and the other half were pulpitis cases. A total of 12 treated teeth and 12 untreated teeth are described in this report.

One month after treatment, the monkeys were sacrificed. Block sections of the jaws were removed, fixed in 10 percent formalin and decalcified in five percent formic acid. Semiserial paraffin sections seven microns thick were prepared and stained with hematoxylin and eosin for microscopic examination.

Histologically, in the teeth with pulpitis, none of the control teeth had any periapical inflammation. The treated pulpitis cases in all but one apex showed inflammatory responses ranging from mild to severe. Both the treated and untreated necrotic teeth had basically the same periapical responses with no evidence of onset of healing in the treated teeth.

THE QUALITATIVE ANALYSIS FOR ERYTHROMYCIN ACTIVITY IN CREVICULAR FLUID AND SALIVA

Michael Jon Duch

The effects of systemically administered antibiotics upon the antibacterial potential of crevicular fluid and whole mixed saliva were studied in 10 individuals, 21 to 62 years of age. The response was measured in terms of the ability of the crevicular fluid and saliva samples to inhibit the growth of a common oral bacteria after the antibiotic was administered. The specific purpose was to determine whether

orally administered erythromycin, given in a 500 mg dose, would result in a sufficient concentration of the antibiotic in the gingival sulcus fluid or whole mixed saliva, to be bactericidal against *Streptococcus faecalis* (I.U. O.M.8), a common oral micro-organism often associated with subacute bacterial endocarditis.

Before each patient was given the antibiotic, a control sample of crevicular fluid and the saliva was collected. After the antibiotic was administered, the maxillary anterior teeth numbers 6 through 11 were isolated with cotton rolls and dried with gauze sponges and a compressed air stream. Small 3 mm filter paper discs (Whatman No. 1) were placed at the orifice of the gingival sulcus and held in place until they became saturated with crevicular fluid. A new disc was then placed in the floor of the mouth to become saturated with whole mixed saliva. These procedures were repeated every 30 minutes for three hours.

Upon completion of the sampling period the filter discs were placed on agar plates inoculated with *Streptococcus faecalis* (I.U.O.M.8), incubated at 37° C and then examined for zones of growth inhibition around the discs at 24 and 48 hours after innoculation. Commercially available antibiotic susceptibility discs in concentrations of 2 mcg, 5 mcg, and 15 mcg served as the standards to determine the sensitivity of the bacterium to the antibiotic.

The results indicate that no bacterial inhibitory effect could be found in the crevicular fluid of the whole mixed saliva, prior to or during the three-hour sampling period following the administration of the antibiotic, erythromycin. The results of the sensitivity testing of the bacteria indicated that the micro-organism was very sensitive to the 15 mcg concentration and moderately sensitive at the 2 and 5 mcg levels. These results indicate that the method of evaluating for bacterial inhibition was sensitive enough to detect low concentrations of the antibiotic if it was present.

EFFECT OF SEALANT CONDITIONERS ON OCCLUSAL SURFACE BACTERIA: A CLINICAL STUDY

Michael Reed Johns

This clinical study evaluated the effects of conditioning agents for pit and fissure sealants on the bacteria present in occusal grooves and fissures in permanent molars. The conditioning agents, 50 percent phosphoric acid and 50 percent phosphoric acid attenuated with 7 percent zinc oxide, with distilled sterile water being used as a control, were compared for their ability to kill bacteria in carious occulusal lesions. Eighty-six teeth from children eight to twelve years of age were conditioned with one of the randomly assigned agents using a blind method to prevent bias. The teeth were then cultured with a method that measured results as to growth or no growth after incubation. The culturing was done at both the occlusal surface and the depth of the lesion.

A chi square test demonstrated that there were no significant differences between the conditioners on either the occlusal or depth of the lesion cultures ($x^2 = .31$, $df = 2$, $a = .05$).

The two conditioners did not totally kill the bacteria in occlusal lesions often enough to justify their use as bactericidal agents before sealants are applied.

SPACE OCCUPIED BY ORTHODONTIC BANDS

Rupert W. Knierim

This study was initiated to determine if differences existed in the amount of space occupied by different types and brands of orthodontic bands. Since all prior estimations of banding space were determined by cephalometric headplate measurements or from measuring band materials, a more valid study was indicated. A measurement device was constructed which allowed accurate measurement of the same spot on a human tooth. Actual human teeth were banded and measurements taken.

The results obtained showed no significant difference between the different brands and types of bands as to the space occupied on a tooth..

EFFECT OF FULL THICKNESS MUCO-PERIOSTEAL FLAP PROCEDURES ON THE CAMBIUM LAYER OF THE PERIOSTEUM OF RHESUS MONKEYS

John B. Lehman, Jr.

The purpose of this study was to determine histologically whether the cambium or osteoblastic layer of the periosteum is reflected by blunt dissection during a full thickness muco-periosteal flap procedure. Two adult **Macaca mulatta** monkeys were used. Intraoral full thickness flap procedures were performed on the facial surface from the distal of the canine to the distal of the first molar in three of four quadrants. The fourth quadrant served as the control. Extraoral full thickness flap procedures were performed on a designated area of the parietal skull bone at the same time intervals as the intraoral procedures. The surgical procedures were staggered so that specimens were available for microscopic examination at zero hours, one week, and two weeks after surgery.

Five days before sacrifice, each animal was given an intraperitoneal injection of a 2% aqueous solution of Procion Brilliant Red H-8BS in the dose of 100 mg/Kg body weight. After sacrifice, the jaw and calvaria specimens were fixed in 10% formalin and decalcified in 5% formic acid. Semi-serial 7 micron thick paraffin sections were prepared. Alternate slides were stained with hematoxylin and eosin. Unstained sections were examined under fluorescent microscopy for Procion labelling.

The results indicate that the cambium or osteoblastic layer is totally reflected from alveolar bone by blunt dissection on the intraoral sites. The periostum appeared to be thickened and reattached to alveolar bone in the one-week specimens. New osteoid formation was seen as early as one week but was minimal even at two weeks. Osteoclastic resorption was most commonly noted at the alveolar crest in both the one- and two-week specimens. The periosteum was not reflected by blunt dissection of the extraoral surgical flaps.

A METHOD OF TESTING THE WEAR PROPERTIES OF PORCELAIN AND HUMAN TOOTH ENAMEL

John C. G. Locke

The purpose of this study was to design a testing method to evaluate the wear properties of porcelain and enamel. These materials were the most difficult to test reliably.

Porcelain samples with different surface finishes produced by 240, 400, and 600 grit carborundum paper, both glazed and unglazed, were worn against enamel. The enamel sliders consisted of intact human enamel cusps taken from bicuspid teeth. Five specimens in each group were tested in a circular pattern under a load of one kilogram over a distance of 25,142 centimeters.

The results show that the enamel wear was not affected by the porcelain surface. The porcelain wear decreased when the surface was glazed. The 400 grit porcelain surface, glazed and unglazed, exhibited more wear than either the 240 or 600 grit porcelain. This was an unexpected result.

One of the mechanisms of wear appeared to be via a two or three-phase abrasive wear system involving zirconium particles originating from the porcelain.

PERIODONTAL STATUS OF INDIVIDUALS ON LONG-TERM ASPIRIN THERAPY

Lynn S. McConnell

This study investigated the possible effects of long-term aspirin therapy on the periodontal tissues. Gingival health status, presence and extent of plaque and calculus, loss of epithelial attachment, and percentage of alveolar bone loss were assessed and recorded for all teeth present in 30 arthritic patients (mean age of 35.6 years). The examination findings were compared with like data from 30 control patients (mean age of 29.0 years) with comparable amounts of local irritants. Plaque and calculus were measured using a modification of the Oral Hygiene Index of Green and Vermillion. Gingival health status and loss of epithelial attachment were assessed using a modification of the Gingival Periodontal Index proposed by O'Leary. Percentage of alveolar bone loss was determined from periapical radiographs using a Schei grid. A second analysis was performed comparing the clinical data of an experimental group and a control group of 20 subjects each with a mean age difference of 0.4 year.

The experimental groups were found to have significantly lower (P 0.001) gingival health status scores indicating better gingival health than that of the corresponding control groups. The percentage of alveolar bone loss and the loss of epithelial attachment were not significantly different between the experimental and control groups. There was no significant correlation between the gingival health status scores and the length of time the experimental patients had been receiving the aspirin medication.

It appeared that the aspirin medication inhibited the inflammatory response in the gingival tissues. This inhibitory effect may have been due to the capability of aspirin to prevent prostaglandin biosynthesis.

A COMPARISON OF ACCURACY AND DIMENSIONAL STABILITY O FSOME ELASTOMERIC IMPRESSION MATERIALS

Roberto Magallanes R.

In accordance with the manufacturer's instructions, six elastomeric impression materials were used to make two series of impressions of a stainless steel die representing an M.O.D. preparation in a lower molar.

In the first series, stress was not deliberately induced in the impression during its removal from the die. For the second series of impressions, the die was modified by providing undercuts, so that the material was deliberately strained at the time of separation of the impression and the die.

Six combinations of elastomeric impression materials were used so that the three types (polysulfide, silicone and polyether) were represented as well as the four classes (light, regular, heavy body and moldable). Impression techniques included single mix, double mix, and reline of a primary moldable silicone and polysulfide.

Transverse measurements of each impression were made at 10 minutes, six hours, 24 hours, and five days after separation of impression and die, and the results were compared with the corresponding dimensions of the master die.

Baseline accuracy was obtained by measuring the impression 10 minutes after it was removed from the master die; any subsequent change in dimensions represented dimensional instability of the impression materials.

Accuracy of the impressions varied with the location of the measurements, which were made at the occlusal, cervical, and pulpal floor. The

(continued on page 78)

Alumni Notes

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

Greetings! I wish I could say "it is a beautiful day in Indiana" but I can't. But we are in Indiana and it is snowing and cold and we are miserable! We returned from Hawaii November 23—had to—my duties as Executrix of my brother's estate which is still in Probate court demanded my presence, so here we are, trying to remember how nice and warm it was in Hawaii, although when we left their "winter" was beginning and we were not as comfortable as we were in the summer. But we are counting the days until we can hope to sell all and move to a warmer climate. We hope we can find it in California, as Hawaii is so far from family. We are thinking of Palm Springs—ex-Presidents choose it—so why shouldn't we? But for now 335 S. College is the place to write me, and of course if you send it to the Dental School it will be forwarded, as I will always keep them posted.

In writing about all the dear people in Hawaii I forgot to mention Howard (Class of 1970) and Sue Beastall. We didn't get to see them but did talk with them and thought surely we would see them before we left, but they were busy and didn't get to the party. Anyway, a Christmas card from Nancy Dudding Lindsay whose husband John is stationed at the Naval Regional Med. Center, Camp Pendleton (since '74) carried the news that Howard was selected for an Oral Surgery residency (Navy) in the hospital at Oakland . . . and another Hoosier, Tom McKean (Class of 1953) is the Chief of Dental Service there. Hope that makes up for the oversight. Oh yes, I'm sure Dr. Ching has five children and I said four. Sorry about that!

I just talked with Dr. Hine, who has just returned from Manila, tired, but still going strong. I don't think he will ever retire!

I am so grateful for all the cards and letters you people sent me and rather than bore you with facts about the weather—which I'm sure you all know—I want just to thank you again for your letters and cards and please keep them coming or we won't have a column! So now I wish to share with you the news we received, beginning with the

Class of 1917

Dr. Carl Frech
1204 Pebble Beach Blvd.
Sun City Center, Florida 33570

wrote us as follows:

I note by the papers that you are having some disagreeable weather up your way. That is what you get for staying up there when nice places such as Florida are available. After living down here for 10 years where the grass is green and the flowers grow 12 months out of the year, a snowflake is just a bad memory.

We were up north for three weeks in August and fully intended to include Bloomington in the itinerary but could not squeeze it in. Did get to see the Paul Ashers in Greenwood and the Huckelberrys who came down for dinner. The next day went to the dental school but due to the August vacation found it practically deserted. However was most pleased to see Bob Bogan, Bob Derry, Ray Maesaka, Ralph Schimmele and Pete Oldham who dropped by. The University complex has certainly changed and I understand further improvements are on the drawing boards. It is an excellent institution.

We stopped in Elwood to see the Scircles and still have not recovered from the shock of hearing of Roy's demise a short time later. An excellent dentist and

an outstanding citizen was lost with his passing; it is too bad everyone was not cut from the same pattern.

After returning from this trip we still had "itchy feet" so flew to Los Angeles, rented a car and drove 1400 miles seeing the sights of California. Previous trips had been to L.A. or San Francisco to attend dental conventions but this time we explored everything between those cities.

(Thank you, Dr. Frech, for such a newsy letter and I do think anyone who lives in Indiana must envy you. I do, and next year, the Lord willing, we intend to be where the weather is warm! I finally got your message! Sorry we missed seeing you but we were in Honolulu until Nov. 23 and Indiana was awful to come home to!—C.H.)

Deceased: Dr. Fred H. Kalles, New Castle, Indiana, August 1976.

Class of 1918

Deceased: Dr. James C. Weatherholt, San Jose, California, August 1976.

Class of 1922

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

Class of 1924

Deceased: Dr. Byron James DeaKyne, Fortville, Indiana, October 1976.

Deceased: Dr. Charles W. Drew, Bartlesville, Indiana, September 1976.

Deceased: Dr. Roy A. Scircle, Elwood, Indiana, October 1976.

Class of 1926

Dr. Harold C. Dimmich
401 S. Adams Street
Boswell, Indiana 47921

wrote in a letter to the Alumni Association, *I might mention that on October 25, 1976 they rushed me to the Home Hospital, Lafayette, with a coronary. Was four days in intensive care, two weeks in private room, home after November 20. I am doing fine, no pain or discomfort. Am even doing some office work.*

(Dr. Dimmich, you certainly are to be congratulated on making such a quick come-back! Best wishes and don't work too hard! C.H.)

Class of 1944

From Dr. and Mrs. Morris Weiner and Family
of 228 Elm Avenue
Rahway, New Jersey 07065

came *Sincere good wishes for the Holiday Season and for your health and happiness in the New Year.*

(And that wish we do hope comes true. Health means so much and I never realized it more. Thank you and God bless you for remembering me. I'm so glad and hope all is well with you. C.H.)

Class of 1945

A Christmas card came from
Dr. Charles J. Vincent
333 East Ontario 4303 B
Chicago, Illinois 60611

(and since his address is the same, I imagine he is still busy counseling students. He may be president of the University by now! Do write us more next time, Dr. Vincent. We are a curious people and love to know more about you all! C.H.)

Class of 1951

From Dr. Betty Koss
5699 East 71st Street
Indianapolis, Indiana 46220

comes this interesting news of the Class of 1951. We are so grateful to hear from her and enjoyed her letter. I can't seem to answer them personally, but I do enjoy them and I'm so happy for the part I played in helping so many young people achieve their goals in life. I'm particularly interested in the success our women graduates have made and Dr. Koss is a shining example. And now her news:

It was a real joy to have shared our 25th reunion with the 30 other "fellows" and their families who were in Bloomington to celebrate the occasion on September 30-October 2. From the check-in time, at the Howard Johnson, on Thursday afternoon, until the last Rah! Rah! at the Saturday afternoon football game—it was a blast!

Our class won the award, at the Friday President's Banquet, for having the most alumni present for a class reunion. Hoosiers present were:
Dick Beitelshees
Dick "Buck" Buchanan
John Bushong
Chuck Denton
Bill Detroy
Bob Gallagher
Bob Geedy
Gordon Gray
Bob Green
Chuck Hamer
Frank Hapak
Bob Holstein
Larry Lucarelli
John Mendenhall
Jim Mott
Ray Price
Chuck Purlee
Chuck Redish
John Reichle
John Risch
Bob Shellenberger
C. J. Smith
Alden Thompson
Don Tyte
Geo. "Buck" Welch
Don Whitehead
Gene Williams

Those who came from out of state were:
Gene Huffer, (Clearwater, Florida)
Bob O'Neal (Champaign, Illinois)
Al Williams (Atlanta, Georgia)

Appreciation is expressed to Don Tyte and John Risch who, in cooperation with the I.U. Alumni Office, particularly Sharon Holland, exerted their efforts in making this such a memorable affair.

I hope we don't wait another 25 years to get together—why don't we do it more often?

Best wishes from Betty "Jo" Koss

Class of 1952

Dr. John F. Johnston shared with us a letter he received from
Dr. Donald B. Wiesler
409 Columbus Avenue
Sandusky, Ohio 44870
which was so interesting we are quoting much of it here:

I would like to apologize first for neglecting you all these years. I don't know how honored you will feel about this but you have come to my mind at least once a week since the day I started my practice in September 1952. It isn't that I do that much Crown and Bridge, but your principles have a way of spreading all over the place in this business.

I certainly enjoyed your article and hope it becomes a regular part of the Bulletin. Part of the article had me confused—it mentioned this Lavonne person you've been living with. That is the best kept secret I ever heard of. I guess it always seemed to me that you were the bachelor type person!

Well, 24½ years ago I had a wife Bette and a daughter Laura. On the days I did Operative work on Bette, we brought Laura and a little red chair along for her to sit on. She never got to sit very long before the C&B Chairman swept her up and carried her off with him until the appointment was over and she was returned —usually with a 50¢ piece! Since then, and in the vain hope of a son, we produced 3 more daughters! Laura is married, living in Baltimore, Md.; Ellen married a real live Russian emigrant and lives in New Jersey. Beth is married and lives 20 miles from here. The end of the line is 20-year-old Amy who is pleased to announce she has been accepted at Ohio

State School of Dental Hygiene and is one happy kid.

Well, sir, after 24 years in dentistry I can't think of changing a thing. I've been able to feed and educate my kids, I haven't amassed a fortune, but I've had a ball. I can't remember a time I haven't looked forward to going to work; every day something interesting comes along. I have a 3-chair office and, right now, a pregnant hygienist, so we're looking for another one. I must be an odd ball because I still enjoy setting my own teeth, and the whole works. I have a drawing area of 69,000 people and about 26 dentists in that area. It's on Lake Erie and if you like boating or fishing or amusement parks, we have it all. The industry is widely diversified so that most people are employed all the time.

This one-sided conversation put down between patients has been something I've wanted to do for years but I always figured I was the one clown in the class you wouldn't remember.

Thank you again for all you've done for me. I really appreciate it!

(Dr. Wiesler, do write again; as I mentioned elsewhere, Dr. Johnston has been ill and Mrs. Johnston, who usually answers or helps him answer his letters, is so busy she just can't do all the things she wants to do! I hope you will write again and maybe a letter to me, too. I remember you well, even though I've been retired since 1971. You were all my "boys" and always will be. Best wishes for your continued success. C.H.)

Dr. Johnston shared with us a letter he received from Dr. John B. Boyd (M.S.D., 1959) of Howard University School of Dentistry, Washington, D.C. who also reported on his appreciation of Dr. Johnston's teaching, his philosophies and concepts.

Dr. Boyd has designed, developed and implemented a new program, the General Dentistry Clinic Program for the senior students, and is Program Director for the Dental Auxiliary Utilization Program at Howard, as well as clinically instructing in Crown and Bridge.

Dr. Boyd reported that his oldest son, Jack, is an officer in the Executive Protection Service, which is a Branch of the Secret Service charged with guarding the President and the Embassies. Tony is a sophomore at Earlham College and Terry is a junior in Regina High School.

Class of 1954

Deceased: Dr. James F. Calland, Indianapolis, Indiana, February 1977.

Class of 1955

A letter from
Drs. Werner and Ursula Bleifuss
69 Heidelberg-Boxberg, den
Am Waldrand 1 Germany

reported they had had to move from Lathrup Village, Michigan, because of Dr. Werner's allergy, and moved to Heidelberg rather than elsewhere in the U.S. since this would have meant taking another State Board and moving to an entirely new and strange environment. He reports, *We are practicing in Heidelberg, I myself as a general practitioner and Ursula as a specialist for orthodontics. Many of our patients are Americans, since in Heidelberg, as the American Headquarter, twenty thousand Americans (soldiers and civilians) are living. Business is very good and sometimes it is becoming too hectic, but we both love our work.*

Since two years our son Juergen is a physician with German and American degree. He is specializing in internal medicine and will be a resident physician in a Michigan hospital next year. He graduated summa cum laude from his medical school.

We regret having missed the last reunion of our class, the more since we were in the States at that time. Probably on account of our move mail did not reach us. We sure hope to be able to attend it next time.

This summer we visited Turkey, Greece, Italy and several other countries on a cruise, where we had the opportunity to spend a day with Bill and Helen Theofilis in Athens.

Warmest greetings to all—our classmates and staff members from the dental school. If any of you come to Germany ever, come and see us in Heidelberg.

(Thanks for writing to us; we are happy to learn of your son's success—but we didn't expect anything else! You see, we know his parents. Best wishes and do continue to keep us informed. C.H.)

Deceased: Dr. W. Dean Bowker, West Lafayette, Indiana, July 1976.

Class of 1957

Dr. R. L. Bubenzer
Greenfield Professional Center
120 West McKenzie Road, Suite 1
Greenfield, Indiana 46140

wrote me such a lovely letter, as follows:

During this Bicentennial year, Mrs. Bubenzer and I had much occasion to count our blessings. Out of a feeling of gratitude, I was moved to write the enclosed copy so our feelings can be shared.

We wish you a blessed Christmas and health and happiness for the New Year.

(And then he wrote one of the most touching notes of thanks to all who helped him gain his cherished goal of being a dentist that I think I have ever received. I am so glad I had the pleasure of knowing him. Thank you, Dr. and Mrs. Bubenzer, for your good letter and note of gratitude. I know all who will read it will be moved just as I was. I know it will be a "shot in the arm" to our Admissions Committee who spend long hours trying to decide who of the many applicants should be accepted. I'm sure your acceptance was one they never regretted. I wish we could include your photograph and I must say you have certainly worn the years well! Congratulations on all the honors you have received, and thank you for writing us!—C.H.)

And here is his note of gratitude:

1977 marks the 20th annivrsary of my admission to dental school. This seems to give an opportunity for some reminiscing and above all an opportunity to express my gratitude to dentistry in general and specifically to those who were motivated to grant my admission to dental school.

I was 34 years old at the time, had immigrated from Germany in November 1952 and was still a foreign national when I applied for admission to I. U. School of Dentistry. I was very highly motivated, ambiticus and goal oriented in my quest to become a dentist; in predental student lingo of that period I was considered a "gunner" at Butler University and I. U. Downtown Indianapolis Extension.

To become selected for membership in Phi Eta Sigma Honor Society, Butler University Chapter, was a surprising award for a foreigner with a 3.8 grade average and it encouraged me to pursue my studies with more confidence and intensity. I had to prove something to myself and to those who were betting on me.

Today, I can still see myself carving the chalk and answering questions during an anxiety-charged interview. My entire future would depend on the decision of the Admissions Committee. It speaks for the greatness of the United States, for the generosity, benevolence and kindness of the members of the Admissions Committee that they allowed the immigrant and newcomer to occupy one of the cherished seats in the freshman class of 1957. We were the last freshman class to go to Bloomington and it was an elusive dream come true to be allowed to study to become a member of the dental profession at an American university. This is why I feel today that the formality and hurdle of admission was far more important in my life than the successful graduation four years later.

Together with my wife, Marlise, who worked me through school as a dental technician and who became CDT in Crown and Bridge in 1964, we have tried

to operate a very high quality dental practice in Greenfield, contributing to the profession and to the community in which we are privileged to live.

Highlights in my professional career have been: the invitation by the American Academy of Physiologic Dentistry to speak at their annual meeting in Chicago, Illinois in 1968; to be invited to become a member of the rather selective and exclusive Indianapolis General Dentistry Study Group; to present a table clinic on physiologic rehabilitation at the Indiana State Dental meeting in May 1968; working on a fellowship program of the AGD; being selected as a biographee to be included in "Who's Who in the Midwest" 14th Ed. 1974/75.

We give thanks to the Lord who allowed us to be healthy all these years, who guided our thoughts and actions, and we give thanks to all the people within the profession with whom and for whom we had the privilege to serve, who accepted us at face value—and that includes especially the members of the "Turning Point" Admissions Committee. God Bless You All.

Dr. and Mrs. Garcia Pedro G. Colon
Box 1222
Caguaz, P. R. 00625

remembered us with a lovely Christmas Card. Your good wishes are appreciated and we wish you the best, too. Who knows, we may try the climate at Puerto Rico! We are determined to be where it is warm.—C.H.

We received a Christmas letter from
Dr. and Mrs. Waldo Scales
160 Marine Street
St. Augustine, Fla. 32084

in which they gave us a fine report of their activities:

The Scales' have been blessed with good fortune and good health through another year for which we give God thanks. Waldo had an enjoyable year in dentistry. Son Bill is a sophomore in high school; he spent his summer working in the dental office and his father and mother would very much like to see him go on with dentistry. He still swims on the "Swim Team", plays trombone in the band, spends his weekends with his father either working on the farm or in the woods.

James Raymond is now 13 years old—in the 8th grade and since we live out in a roaming subdivision and since James Raymond IS only 13 years old and since James Raymond loves to drive anything from his Daddy's heavy road tractor to his Mother's Mercedes, J.R. is constantly dodging the county mounties (Co. Sheriff Patrol). It is my firm opinion that if his father wasn't the county prisoners' dentist that boy would be in a heap of trouble! He has grown like a weed and all his pants are a foot too short!

Jane Michele is 9 years old and in 4th grade—is still her father's weakness. We are finding that she has musical talent on the piano and singing.

Well, I am the last one to tell about. I have had a healthy, happy, busy year looking after my family, helping in the office, and just doing the things a mother likes to do.

May God bless you one and all and give you a year of health, love and prosperity.

(We are always glad to have the Christmas letter from the Waldo Scales'. I'm sure Elizabeth is to be especially thanked, and I know everyone enjoys the news about the family. I do and I'd love to visit you all some day in Old St. Augustine. I was there for an hour or so in 1959 or 1960 with a group visiting Cole Porter's museum or something. I seem to remember the song "Beautiful Dreamer" filling the air. If I could find my diary I'd check on it but I'm sure it was St. Augustine and that's all of Florida I've ever seen.—C.H.)

Class of 1963

Dr. Pete Leonard
3680 Woodside Drive
Columbus, Indiana 47201

and wife Alice, daughter Cathy and son Hap sent us a Christmas wish: *May your holidays be filled with joy and happiness.* They were, and getting cards from you all really helped. It is such a thrill to think how busy you all are and yet you find time to wish me well and in so doing spread sunshine to all your classmates. Isn't that great! Don't ever forget me, please!—C.H.

Dr. Johnston received a letter from Dr. Sverker Toreskog, Lakarhuset, Sodra Vagen 27, 411 35 Goteborg, Sweden, in which he commented on Dr. Johnston's influence on his professional life, and thanked Dr. Johnston and the dental school staff for all their help and inspiration.

Dr. Toreskog reports that he has a very successful practice—he calls it a general practice with emphasis on Crown and Bridge; that he is also employed at the Dental School part-time; he gives postgraduate courses around Sweden, Norway and Finland mainly on constructions with PFG, and has also written articles on the subject. He is married, has 3 children.

He reported meeting Charalambous Blazoudakis on Crete last Easter, and said they had a marvelous time discussing old times.

He sent his best wishes to everybody at the school.

Thanks to Dr. Johnston for sharing his letter with us!—C.H.

Class of 1970

Dr. Pat Barrett
Box 149
Kingston, Washington 98346

wrote that he has been in Kingston over five years and is still a clinical associate teaching intravenous sedation techniques at the University of Washington.

(Dr. Barrett, it was such a pleasure to hear from you. I've often wondered how things were working out for you. Do write us again!—C.H.)

Class of 1971

Dr. and Mrs. Virgil Ullom
Box A
Greenwood, Indiana 46142

sent Christmas Greetings and a report on their activities in 1976. He said the year had offered them much variety and travel as they completed a four and a half year term in May. Including their travel from Haiti, they have journeyed by car, boat and plane approximately 20,000 miles. They would like to return to Haiti at the end of January, pending completion of securing support. This would be during semester break for the children, who are eagerly looking forward to their return to Haiti. He reports the housing shortage in Haiti is serious and may cause them some delay. We were glad to learn their son Loren, who has Perthes Disease, has a brace which he may need for the next year or two, but that he is not experiencing any pain.

(I am sorry we missed seeing you but this last year has been a very unpredictable one. I doubt we ever get to Haiti but some time again I want to help with the work you are doing. I do hope you will continue to write me, as I know I enjoy hearing from you and your classmates do, too. We do hope Loren continues to improve. He must be a brave little boy. May God bless you all as you continue His work in Haiti.—C.H.)

Dr. Richard Wagner
Rue Orient Ville 8
1005 Lausanne, Switzerland

sent Christmas greetings from Switzerland, reporting he moved from Stockholm in November and began practicing in a dental clinic in Lausanne on December 1. He says this is a charming small city over-

looking Lake Geneva and the snow-capped mountains.

(So good to hear from you, Dr. Wagner. You really get around! I'm glad you keep in touch, as what you all are doing is of interest to me and many others.—C.H.)

Class of 1975

Our latest address for
Dr. Carl B. Vorhies is
1500 S. W. Skyline Blvd. #10
Portland, Oregon 97221

Class of 1976

Mrs. Sarah Manion sent me a letter she received from

Dr. James E. Edwards
825 South Village Drive, #204
St. Petersburg, Florida 33702

who reported he is stationed in Tampa with the Air Force and really enjoying it so far. He hoped everything is going smoothly at the Dental School. He wanted some information which I'm sure Sarah sent him. (Thank you, Dr. Edwards, for giving us your address and informing us of what you are doing!—C.H.)

New Guinea
(continue from page 14)
the coming years. We have a dire need for Faculties in the fields of preventive dentistry, periodontics, surgery and prosthetics (these new positions will be advertised soon and the engagements should start in January or February 1978).

I have to put an end to all these descriptions about PNG and its dental school. I could write for days!! There are few countries in the world which have made as much ink flow as PNG.

Ethics
(continued from page 21)
people in the world. There are two seas in Palestine.

In summary, the dentist's primary duty in serving his patient is fulfilled by giving, at a reasonable fee, the highest type of service of which he is capable and by avoiding any conduct which may lead to a lowering of esteem of the profession of which he is a member.

Stress
(continued from page 24)
send anything to the office that required a note to explain an inadequacy.

As I reevaluated my own work standards and became more confident that I was providing a valuable service to the patient, I became less shy in talking about fees. The more I became convinced that I was earning my fees, the less embarrassed I was about presenting them.

An Improved Outlook

I started talking with my patients, not to them. I began to listen to what they said and to make certain that we understood each other. A vital part of each treatment presentation was the idea that we were both in this together and that if they did not do their part, then my part would fail. And I believed it. When something did go wrong, and the patient came back, I was able to pick up the pieces and start from scratch. There was some annoyance at wasted work, some empathy for the patient's discomfort, but not a shred of guilt.

That is how it is now. The changes of the past several years have been incredible. I no longer lie awake at night worrying about the next day's patients. Practice still has its pressures but I am able to deal with these. I have reduced my problems to those over which I have some influence, and no matter what the problems are, I expect no more of myself than the best that I can do.

Dental Treatment
(continued from page 28)
According to Rosenstein,[8] in the treatment of cerebral palsied patients at Columbia University, less than 2 percent needed general anesthesia. My experience at Riley Hospital supports this low percentage.

General anesthesia should be used only after all other means of treatment have failed.

In summary, most cerebral palsied patients can and should be treated with conventional methods. If it becomes necessary to use other techniques, consideration should be given to age (or, more important mental age), behavior, amount of treatment necessary, available facilities, financial situation, and medical conditions.

Again, negative feelings concerning cerebral palsied patients are the result of a lifetime of social and cultural conditioning. Yet the rewards of patient gratitude and self-satisfaction in working with these people justify our meeting the challenge of overcoming these feelings. I would like to stress that if the dentist decides not to provide treatment for these patients, it is critically important for him to refer them to someone who will.

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Endodontic Treatment

(continued from page 30)

of an overfill in the posterior area, extraction should be seriously considered.

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Mrs. Chilton
(continued from page 40)
scious motto must have been, "If my actions are good for Indiana University, for the School of Dentistry and for Dr. Hine, I will have achieved my goal."

Professor Paul Barton—It didn't take me any time at all to learn that Mrs. Chilton was efficient, well informed, kind, courteous, dependable, and diplomatic—the ideal administrative assistant. But what probably impressed me most was her ability to remain calm and good-humored in every situation, whatever the pressure.

Mrs. Ruth Lively—The one thing I have said to many people, many times about Mrs. Chilton, as a person, is that she is one woman whom I have never heard another woman say one word against. This is a compliment not many women can claim. No one she ever worked with was ever jealous of her but felt she could never reap enough rewards for her thoughtfulness and kind help. She never did anything with a thought of what she would get out of her efforts in any way, in recognition, praise, credit or monetarily, but always was concerned if she had done the best she could in order not to let the one down she was doing it for. She loved her job and was totally dedicated and loyal to it and to you. The University has lost one of its best "back stage hands."

Library
(continued from page 68)
areas showing the greatest and the least accuracy were not the same for all the materials.

The polyether material and both materials using the reline technique in general showed good stability, while the others exhibited greater dimensional change during impression storage.

TRANSIENT BACTEREMIA IN PATIENTS FOLLOWING ORTHODONTIC BANDING PROCEDURES

James V. Macri

The purpose of this investigation was to determine if the fitting and placement of orthodontic bands on patients induced a transient bacteremia. Twenty patients were included, and a total of 12 teeth were banded in each patient. Before any procedure was performed, a preoperative blood sample was taken. Three additional blood samples were taken throughout the procedure 30 to 90 seconds after visible hemmorrhage occurred from the placement of the bands. The blood cultures were then incubated for seven days. Cultures that became dark after seven days were subcultured and incubated for 24 hours anaerobically and 24 hours aerobically in an attempt to detect the presence of bacteria.

Of the 80 blood cultures taken during this study, only one preoperative blood sample became positive. However, the fact that no bacteremia was detected during the banding procedures does not conclusively exclude its presence. Until more work is done to show conclusively that a bacteremia does not occur during the banding procedure it would be advisable to follow the suggestion of the American Heart Association and prophylactically premedicate patients who are susceptible to SBE with antibiotics for those procedures that may cause hemorrhage.

ORAL STATUS OF CHILDREN DURING CHEMOTHERAPY FOR ACUTE LEUKEMIA

Monique Michaud

The purpose of this clinical study was to ascertain the range of variation of the patient's oral health response during the course of leukemia chemotherapy.

Seventy-seven children with acute leukemia were examined over a six-month period. Oral examination was performed when the patient was hospitalized at the James Whitcomb Riley Hospital for Children, Indianapolis, and/or at the time of his follow-up visit at the hemotology out-patient clinic.

The clinical findings observed were the consequences of either immunosuppression, bone marrow suppression, leukemic infiltration, decreased healing response, and poor oral hygiene. Some findings could be found in any group of sick children, or could be considered variation from the normal or pathological findings in the general population.

INFLUENCE OF AN EDUCATIONAL FILM ON DENTAL KNOWLEDGE AND ATTITUDES

J. Daniel H. Navarro

The film "Teeth are for Keeping" was shown to 362 children from five Boys' Clubs and an elementary school. They ranged in age from 8 to 16, and all were from families of a lower socio-economic background, residing in the Indianapolis area.

The film provides the children with entertainment and created familiarity with the dentist and the dental environment. It was in-

tended merely to introduce the children to the dental office, rather than to give them specific instructions about dental education.

In their visit to the dental unit, most of the children were inquisitive and anxious to manipulate the different equipment. Black children and younger individuals among the white children gave the most evidence of enjoying the film. The film seems to reach the objectives of entertainment and increased familiarity with the dental equipment and dental offices.

The unusual situations in the film, such as horseplay, were not followed to the destructive levels by the children. On the other hand, it appears that such films should be carefully studied for their effects upon young viewers.

RELATIVE CASTING SHRINKAGE OF FOUR DENTAL ALLOYS

Tatemi Shimada

To determine relative casting shrinkage, a low gold alloy, a palladium-silver alloy and a Cr-Co-Ni-Pd alloy were compared with an A.D.A. Type III gold casting alloy. Wax patterns of measured length were invested in a phosphate bonded investment. Three investment variables were used: (1) a conventional metal ring with a single asbestos liner short at each end of the ring; (2) the same metal ring without an asbestos liner; (3) a rubber ring which was later removed to provide an unsupported investment cylinder.

Five specimens were used for each of the 12 combinations of variables (three investment procedures were performed for each of the four alloys). This produced a total of 60 specimens using wax patterns positioned axially. Only the Type III gold alloy was used with radically positioned patterns, adding another 15 specimens to the total.

The length of the castings was measured in the same manner as the length of the wax patterns: the distance between pairs of indentations at each end of pattern and casting was measured using a micrometer slide comparator microscope having the slide calibrated in micrometers.

The increase in casting length over the length of the wax pattern showed the following order: (1) low-gold alloy (greater increase), (2) Type III gold alloy, (3) silver-palladium alloy and (4) Cr-Ni-Co-Pd alloy.

Using the unsupported cylinder as a reference, the unlined ring did not appreciably restrict total axial expansion of the investment but it did reduce radial expansion by almost 45 percent. Using the same reference, the lined ring reduced axial expansion by 30 percent and radial expansion by 12 percent.

BIO-COMPATIBILITY AND PHYSICAL PROPERTIES OF ADHESIVES USED IN MAXILLOFACIAL PROSTHETICS

Ariyadasa Udagama

Bio-compatibility, tensile strength and peel strength of four adhesives: Bi-Face adhesive tape, Davol, Medico, and Epithane-3, were tested with methyl methacrylate, silicone, P.V.C. and polyurethane prosthetic materials.

Bio-compatibility was determined by patch testing on human subjects. Davol and Medico adhesives caused mild to severe primary skin irritations. The reactions were severe when adhesives were applied on the skin immediately after extruding from the container and covering with occluding materials. Bi-Face adhesive tape, Epithane-3, silicone, acrylic, and polyurethane did not cause skin reactions, though acrylic caused skin lacerations in relation to the edges of the test samples. P.V.C. elicited mild skin reactions.

Tensile strength proved to be significantly greater than peel strength. The mean adhesive strength of Medico and Epithane-3 was significantly greater than that of Bi-Face adhesive tape and Davol; Davol was the lowest.

P.V.C. offered the best adheophilic properties, and silicone rated the lowest. The best adhesive combinations were: P.V.C. with Epithane-3, acrylic with Medico, silicone with Epithane-3, and polyurethane with Davol.

Adhesive strength was significantly affected by contamination with oil, grease or water, by surface roughness; and by the rigidity, elasticity, and thickness of prosthetic samples.

A STUDY OF BASE METAL-CERAMIC INTERFACE REACTIONS

T. R. Peter Williams

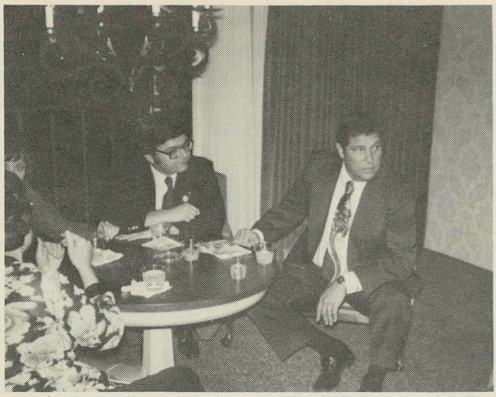
This study was performed to determine the extent of chromium and nickel diffusion into the porcelain, and the reactions which occur at the metal-ceramic interface when a dental porcelain was fused to a dental Ni-Cr alloy. The interface conditions were varied by using three different metal surface preoxidation conditions and several different porcelain firing times. The interface region was studied using light and SEM microscopy, x-ray fluorescence element analysis, x-ray diffractometry and ion-probe microanalyses.

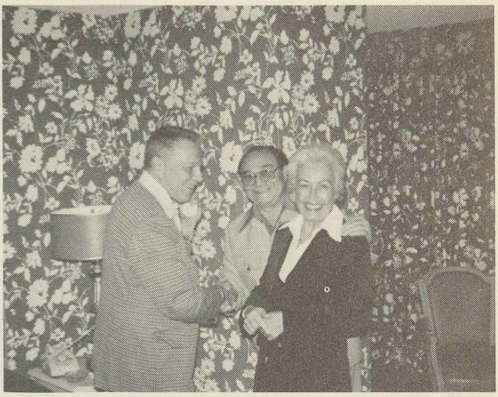
Results showed that beryllium in the metal is an important reactant in the interface reactions.

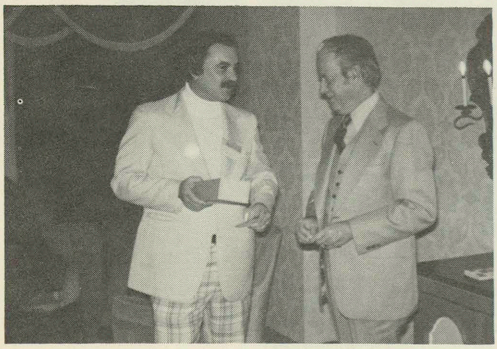
An oxide layer on the metal surface prevented any reaction between the metal and porcelain until slow changes in the oxide layer allowed the movement of metal and porcelain species across it. Once this occurred, extensive reactions between the porcelain and metal commenced.

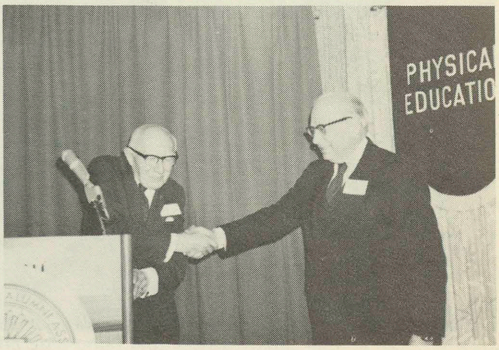
No chromium or nickel diffusion into the porcelain was observed in specimens whose metal surface had been preoxidized prior to porcelain application.

Dr. Maynard K. Hine, who served as Dean of the School of Dentistry for 23 years, and later as the first Chancellor of Indiana University - Purdue University at Indianapolis, received a plaque from the Mayor of Athens last fall at the meeting of Federation Dentaire Internationale in the Greek capital. Dr. Hine is President of FDI. Other honors which he has received during the past year include a silver medal from the Mayor of Paris for "dedicated service to dentistry"; and Honorary Fellowship in the Philippine College of Oral Surgeons, bestowed during Dr. Hine's trip to Manila last winter. In February Dr. Hine was honored as one of seven founders of the American Fund for Dental Health.









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