

Alumni Bulletin

INDIANA UNIVERSITY
SCHOOL OF DENTISTRY

SEPTEMBER, 1960

INDIANAPOLIS, INDIANA

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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.

Preparation of Mouths for Fixed and Removable Partial Dentures

by J. F. Johnston,* D.D.S., Indianapolis, Indiana

Mouth preparation for the removable partial denture is a needful and exacting phase of clinical dentistry, but for the most part it is shamefully disregarded by the profession. This omission may be traced to several sources: namely, some franchised laboratories which advertise and exploit systems and methods, whether or not they are applicable, as well as manufacturers who furnish the materials and control the laboratory operations; common inertia; the importance of magnified profits to an overly-large segment of the profession; and the attitudes in many colleges where partial prosthodontics is taught by men whose sole interest and knowledge is in the construction of complete maxillary and mandibular dentures.

When mouth preparation is proposed for either fixed or removable partial prostheses, many dentists will reply: "This is all right for a teaching institution, or for the big boys with wealthy practices, but give ME a practical solution." By a "practical" solution, these men apparently mean "one in which the dentist makes a significant amount of money, with minimal effort, and the patient does not become unhappy too soon."***

There is a puzzling resistance to the truly practical approach to mouth preparation, an approach which keeps in mind the preservation of the remaining teeth, their supporting structures, and

the subjacent tissue. Restoration, preservation, prevention, stability, comfort, and maximal efficiency are the results of this concept which is carried out in accordance with a carefully predetermined plan.

Objectives of Mouth Preparation for Fixed Partial

What is to be accomplished in mouth preparation for either the fixed or removable partial replacement?

For the fixed bridge, it entails prophylaxis, possibly gingival treatment or recontouring, equilibration, and exploration of all associated teeth and parts. An 'associated' tooth is one which, if lost or rendered inefficient, would change or enlarge the plan of treatment originally outlined for the given arch. An associated tooth may be one approximating an abutment; it may be one which could be used as a splinted abutment; it may be one, the loss of which might weaken the presently competent support around an abutment; and it may be in the opposing arch.

The loss of an occluding tooth could necessitate the construction of a replacement which would receive its major support from subjacent tissue and throw a greater percentage of the opposing thrust on one abutment for the fixed replacement, causing leverages or torque which might eventually unseat or loosen the cemented retainer. Equilibration of the mouth before the construction of a fixed partial may include grinding or reshaping occluding cusps, or the construction of crowns or splints to level the occluding surface or to move it buccally or lingually. These restorative procedures undoubtedly will include some change in cusp form or in cusp

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** Dykema, R. W.: Lecture to Indiana University School of Dentistry graduate students, 1959.

Read before the Partial Prosthodontics Section of the American Dental Association, New York, September 1959.

position, and probably a decrease in the area of the occluding food table.

If teeth approximating the abutments for a fixed bridge can be restored, there is no rule saying specifically when this must be done; that is, whether before or after the building and cementing of the prosthesis. Orthodontics and surgery, also, may be indicated in mouth preparation; however, these aspects will not be discussed here.

The Removable Partial

For the removable partial denture, mouth preparation is usually much more extensive and complicated. Not only should prophylactic and periodontal treatment be completed, the occlusion equilibrated, and opposing food tables re-established, but also the associated teeth in the arch to be restored must be explored and rebuilt. Using the terminology of the Kennedy classification for partially edentulous mouths, modification areas should be examined critically to determine the possibility of fixed bridges being constructed. The life of isolated bicuspsids will be prolonged indefinitely if they can be rigidly joined to other teeth.

When properly distributed, healthy abutment teeth are present, modification spaces, especially anterior, should be filled with fixed bridges. This will simplify the design of the removable partial. Frequently, in this way, a much more satisfactory and easily obtained path of insertion can be employed, eliminating much of the adverse pressure connected with the insertion and removal of the prosthesis, and affording, also, better control of leverages and secondary retention. Mouth preparation should be planned and executed so that the prosthesis may be inserted and removed without rotation, torque, or unreciprocated pressures on any of the teeth used for support, and so that, under the forces of mastication, all pres-

ures on the abutment teeth, brought about by the leverages originating at the various fulcrum lines, will be parallel to their long axes.

Mouth preparation should be devised to furnish each clasp and each secondary retainer with an area suitable for supporting the denture under mastication, for bilateral bracing, and for retention. The abutment teeth must be prepared and reshaped to accommodate occlusal rest seats, a single reciprocating undercut retentive area, and one or two reciprocating guiding planes which will serve several purposes.

Alteration of Tooth Form

How may all of this be attained? Grinding the enamel may suffice in mouths where the caries index is extremely low or seemingly non-existent, and where the teeth are positioned and shaped so that, with only slight modification in form, a non-destructive situation may be produced. As a rule, tooth form, tooth position, and the long axis relationship of the teeth designated for abutments and for secondary retainers must be altered so much in the establishment of a path of insertion, guiding planes, retention, and support that partial veneer or full veneer crowns are mandatory.

In form, the prepared or recontoured abutment teeth should accept clasp arms very close to the gingival line so that lateral forces will tend to move the teeth bodily rather than in an arc around the individual center of rotation. The reciprocating arm of the clasp, during insertion and removal, will move along a surface parallel to the path of insertion, supporting the tooth against lateral movement while the retentive arm of the clasp is flexing and passing over the height of contour into the retentive undercut, and will not increase the width of the food table.

I am not aware of any clinical research

which was planned deliberately to prove that, during the insertion of a partial, unsupported teeth were moved in such a way that the supporting alveolus was damaged and the teeth became loose. However, observation and the reconstruction of cases have demonstrated that when this situation had existed, if the mouth was prepared in the manner suggested in this paper, healing occurred and normalcy returned except when the degeneration had already passed a point of no return.

Use of Crowns

It is my belief that partial dentures should be supported and retained by teeth which have been crowned and, very often, splinted. Two relatively weak teeth, when tied together, can make a very strong abutment. The number of cases which I have observed, where partial dentures have been worn without damage to the enamel surfaces underneath occlusal rests and clasps, is very small indeed. The life of almost every partial denture could be lengthened, the abutment teeth could be maintained in position more successfully, and the supporting structure would remain healthier if the crowns of the abutments were covered and recontoured to faultless clasp form.

Rests and Rest Seats

A rest seat for a clasp or a secondary retainer should be spoon-shaped and should angle slightly toward the center of the tooth. It should be of a depth which will allow the occlusal rest to be free from premature contact and still have strength to resist deformation and fracture. The marginal ridge of the rest seat should be lowered to ensure a point of attachment, between the rest and the minor connector, heavy enough to resist fracture without an excess of gold interfering with the occlusion. Seldom can it be correctly prepared in the natural tooth structure without going through the enamel and making the

tooth more susceptible to caries. A rest seat, in my opinion, should always be in gold, never in amalgam, because of the tendency of the latter material to wear and to adversely affect the structure of the casting.

Guiding Planes

Guiding planes should be prepared on all areas which will contact minor connectors and reciprocal clasp arms. On proximal surfaces, they should be parallel to the path of insertion or should converge 2 to 5 degrees occlusally, to avoid any leverage during mastication. The surface under a reciprocal clasp arm should be formed so that support is given to the tooth during any period of flexing in the retentive arm; but, in that portion of the surface under the tip of the non-retentive arm, there should be some occlusal convergence so that the clasp tip does not bind during movement of the base against the ridge.

Retention

Retentive undercuts should be as close as possible to the gingival tissue, should be relatively narrow mesio-distally, and only occasionally more than .010 of an inch deep. If the partial denture framework is to be made of chrome cobalt alloy, the depth of the retentive undercut should be reduced from 50 to 75 per cent. When a ring clasp with a continuous arm is used, the depth of the undercut may be safely increased to .015 or .020 of an inch. Unfortunately, the majority of removable partial dentures are *over-retained*. This is particularly true of the frameworks cast from chrome cobalt alloys.

Case Histories

I shall conclude with illustrations of four prepared mouths.

The first illustration (Fig. 1) shows a partial denture which had been worn (by a twenty-three-year-old female) for approximately 8 months. No rest seats had been cut in the bicuspid or molars.

The occlusal rests were placed on the marginal ridges, creating raised areas in traumatic occlusion. The bicuspid were mobile and tender, and the prosthesis was tolerated by the patient only during meals.

The radiographs (Figs. 2 and 3) illustrate what was happening to the periodontal membrane.

In the preparation of the mouth for a new prosthesis, or removable bridge, rest seats were made in the bicuspid inlays and the molar crowns, seats deep enough to provide for sufficient bulk of metal in the rests and to make it possible for the rests to conform to the occlusion. (Figs. 4 and 5.)

The next radiographs (Figs. 6 and 7), taken 6 months after the new partial was seated, prove the point. Healing is in progress, there is no mobility, and no tenderness. To date, the prosthesis has been worn for 4 years and the mouth is healthy and comfortable. This case is one of many we have seen.

Figures 8 and 9 are taken from a series where the separated abutments were splinted. Note the position and size of the soldered joint. Embrasure form is good and the areas will permit cleansing.

Elimination of modification areas is always desirable, especially in the anterior. It allows greater freedom in selecting the path of insertion and, frequently, it provides better incising and stabilization of the abutments, without including as many teeth. (Fig. 10.)

Figures 11 and 12 illustrate a case in which two posterior modification spaces were restored with fixed bridges. At the same time, two isolated bicuspid, always poor risks in partial denture construction, were splinted to increase their stability and length of service. The central incisors were joined and recontoured to support the anterior base of the partial during incising and mastication.

(Continued on page 34)

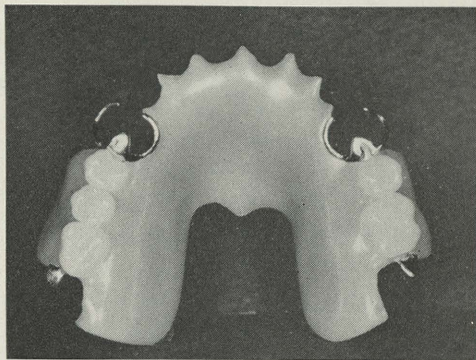


Figure 1

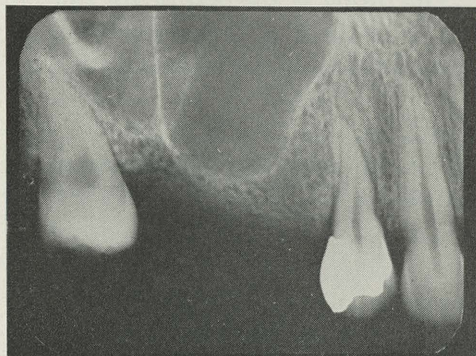


Figure 2

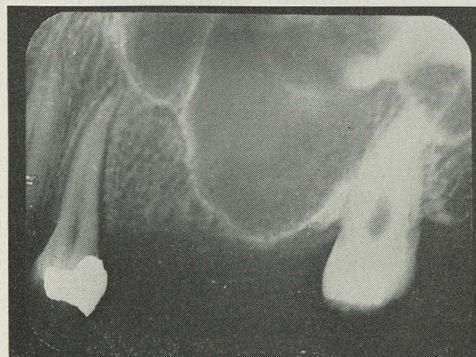


Figure 3

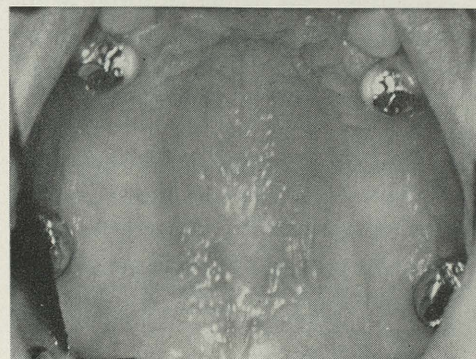


Figure 4

Nutrition — Nutrition and Dentistry, A Two Way Street**

Gilbert LeVine Mellion, D.D.S.* (I.U.S.D., 1943)
Chairman of Connecticut Nutrition Council
Ruth Berman Mellion, B.A., (I.U., 1942) Dietitian

The purpose of dentistry as a profession is to maintain the health of the teeth and adjacent structures for mastication, speech and appearance.

The tissues of the oral cavity (including the teeth), like all tissues of the body, profit from good nutrition, but there are special considerations that are often ignored.

For the purpose of organization we will divide this paper into six parts.

1. The Pregnant Patient

The potential mother should be assured that she will not lose a tooth for every child she has, and that calcium will not be withdrawn from her teeth during pregnancy. She should be encouraged to brush, or at least rinse her teeth thoroughly after vomiting, so that the hydrochloric acid of the stomach does not stay in contact with the teeth for any length of time.

The use of a child size toothbrush, with a small head, should be suggested to those women who find the regular brush causes gagging, which discourages them from brushing their teeth.

2. Refined Sugars and Dental Caries

As pointed out in the editorial in the Oct., 1953 issue of the Journal of the A.D.A., although the last word has yet to be written on the etiology of dental caries, it has long been agreed that the consumption of sugar, plus bacterial fermentation are implicated in the process. This implication is adequately sup-

ported by a joint report of the Councils on Dental Health and Dental Therapeutics of the A.D.A., "Sugar & Dental Caries" in the same issue of the Journal.

Available information indicates that diet may affect the structure of the unerupted teeth, but the use of vitamins and minerals in amounts in excess of those required for a balanced diet has not yet been shown to have any favorable relation to good dental health.

Dental research with radioactive materials has changed some of our basic nutritional concepts. For example, there is evidence that the diet is capable of changing the enamel structure of even the erupted tooth. But it has not been determined whether this minimal change in the enamel is brought about from the blood supply within the tooth, or from the saliva bathing the enamel. However, clinically, for most young persons, the caries rate appears to have a close correlation with the intake of concentrated sweets. This does not imply that a balanced diet does not also have some degree of influence upon caries. It may well be that the caries rate would be higher, if the sweets were taken in the presence of a poor nutritional status.

For the majority, the attempt at caries control must include a reduction of concentrated sweets such as candy, pastry, frequent fresh pieces of chewing gum, sweetened beverages, syrups, jellies and the like. In addition to their high sugar content, such foods are usually sticky and have a tendency to cling to the teeth and resist tooth-brushing.

Patients, particularly the younger ones, should be encouraged to eat self-

* Dr. Mellion is in private practice in Rocky Hill and represents the dental profession on the Advisory Committee on Nutrition, Connecticut State Medical Society.

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cleansing foods such as apples, celery, raw carrots, and over-dried toast. As a matter of fact, animals and ancient man kept their mouths clean through the action of detergent foods. It is because modern man lacks sufficient cleansing foods in his diet, that he has had to resort to artificial means to keep his mouth clean by use of a toothbrush.

It is unfortunate that the mothers of young patients misinterpret the lollipop reward, given by some pediatricians, as approval and endorsement of a continuous diet of lollipops. Too often the dentist trying to encourage a reduction in concentrated sweets, is faced with the comment, "But my pediatrician gives Susie a lollipop." In fairness, it should be said that we even have a few dentists who do not realize that their lollipop reward is being misinterpreted. Coloring books and inexpensive toys would be more suitable awards.

3. *Oral Manifestations of Nutritional Deficiencies*

The specialized tissues of the oral cavity are often the first areas to be affected by nutritional disturbances, and the dentist who sees his patient regularly is in a position to notice these changes and if need be to seek the cooperation of the physician.

In general, the developmental defects of the hard dental structures are most often associated with disturbances in vitamins A and D, or the fat soluble vitamins, whereas deficiencies associated with abnormalities in the soft oral tissues are due to deficiencies of the water soluble vitamins B and C.

The following is a brief listing of some of the oral manifestations of nutritional deficiencies which should arouse suspicion and encourage further investigation on the part of the dentist or the physician.

LIPS

- (a) Fissuring of the vermilion border extending to the adjacent skin,

particularly if it occurs in the summertime.

- (b) Cheilosis, or angular stomatitis, which is a honey colored crusting at the angle of the mouth, usually seen where there is a predominating riboflavin deficiency. In the older patient, a differential diagnosis must be made with loss of vertical dimension, resulting from old dentures that have not been refitted.

TONGUE

- (a) Fusion of the papillae of the tongue which can be demonstrated by rolling a wooden applicator stick over the dorsum of the tongue.
- (b) Atrophy of papillae seen as shiny bald areas.
- (c) A burning sensation or pain in the tongue.

GINGIVA

- (a) Before a diagnosis of scurvy is made based on no history and bleeding gums, recommend a thorough scalding to remove tartar followed by polishing the teeth.

4. *Nutrition in Periodontia*

(diseases of the soft tissues and bone immediately surrounding the teeth)

Based on research carried out to date, it has been found that nutrition most significantly alters the hard structures of the teeth during their formation, while the effect on the pulp and periodontum (bone and soft tissue immediately surrounding the teeth), can take place any time during life.

Dr. Glickman's experimental work offers evidence of the part that underlying systemic factors (of which nutritional deficiency may be a part), play in the etiology of diseases of the gum and underlying bone. In other words, the greater the systemic unbalance the greater the periodontal destruction, in the presence of similar local factors.

5. *Nutrition in Oral Surgery*

After minor operative procedures, there is for practical purposes, no special problem of nutritional therapy in those patients who have been in good health and have a good state of nutrition. But where the patient is exposed to more extensive oral surgery, it is well to keep in mind that those with deficiencies require a longer time for convalescence than those whose nutrition has been maintained. Also, the state of nutrition plays an important role in the healing of wounds. Adequate amounts of proteins, vitamins A, C, and riboflavin are especially desirable.

Many candidates for multiple extractions have been on self-imposed restricted diets because of uncomfortable teeth, and attempts to correct the diet are not always successful. Thus it is felt supplementation is indicated. Proteins can readily be increased by adding two tablespoons of powdered milk to a glass of whole milk, and mixed thoroughly. If the patient takes three or four glasses of milk, so supplemented daily for several weeks before and after surgery, he will be assured against protein deficiencies.

6. *Nutrition in Prosthetics*

Supplementing the diet of patients being prepared for full denture prosthesis is indicated particularly where there is a history of restricted diet, due to insufficient teeth to masticate a diversified diet.

Along with the supplementation, the patient should be encouraged to improve the basic diet by the use of junior chopped baby food and various casseroles. These patients should also be advised to drink at least three glasses of milk per day which will assure them of an adequate supply of calcium.

Such nutritional considerations will not only assure the patient (where absorption and utilization is normal), of

the advantages of general good nutrition, but will also afford nutritionally healthy oral tissues that will better tolerate the prosthetic appliance.

A patient without teeth can survive, but edentulous persons soon lose their enthusiasm for a "mush" diet. Of course, there is always the heroic one who sans teeth can "gum" a steak, but he is not a delight to behold. In fact, if you place a mirror in front of him while he chews, the observation of his chin almost touching his nose x number of times per minute will usually be sufficient encouragement for him to ask for dentures, if there is any pride left.

Summary

1. The oral cavity is an important part of the digestive system, and sufficient comfortable teeth permits the patient to partake of a more diversified diet.

2. Since concentrated sweets are implicated in the etiology of caries, a reduction in the intake of sweets, particularly in the young, is indicated.

3. Changes in the soft tissues of the mouth, though not definitive, should arouse suspicion and encourage further investigation on the part of the dentist or the physician.

4. Patients who are candidates for extensive oral surgery or full denture prosthesis should be given nutritional consideration since they have usually been on self-imposed restricted diets due to painful or insufficient teeth.

5. An exchange of qualified speakers between medical and dental societies would do much toward encouraging consultation between the two professions to the ultimate benefit of the patient.

This article prepared at the request of and approved by the Sub-Committee on Nutrition of the Committee on Public Health of the Connecticut State Medical Society.

Fall Alumni Meeting

Greetings:

The officers in the Indiana University School of Dentistry Alumni Association join me in inviting you to attend the Annual Alumni meeting on the Bloomington Campus October 6, 7, and 8, 1960. The Dental Alumni Association sponsors this affair yearly, because everyone enjoys the opportunity to meet old friends and new and to have a weekend of social relaxation.

The meeting will be held rain or shine, with adequate shelter existing in the new Union Building.

This is a non-profit function. Inasmuch as we must necessarily arrange for a fine program, it is helpful for us to have reservations covered with a check for the Alumni office at the earliest possible moment.

A fine program has been arranged featuring:

1. Golf tournament Thursday, afternoon, October 6.

2. Scientific Program—"Audioc Analgesia."

3. American Society of Dentistry for Children (Indiana Unit) fall Conference. All members of the Alumni Association are invited. The speaker will be Dr. Arthur M. Mickler, "Restorative Techniques For The Child Patient."

4. Constantine Boldyreff.

5. Indiana versus Oregon State—first game in the new stadium.

Constantine Boldyreff, the Russian secret underground leader, who is to speak at the Friday evening banquet, has been fighting the underground war against communism for the last eighteen years. He is the son of a White Russian General who was executed by the Bolsheviks. He has fought it in and out of Russia, in the Balkans, China, Germany, Poland, Africa and since 1947 in America. He is a special target of the Soviet press, in

which he has been reported hung for treason several times.

Born in Russia, educated in Europe, long closely associated with English and American businessmen, Mr. Boldyreff is now a militant leader of the secret anti-soviet organization, NTS, a group dedicated to the overthrow of the Communist regime in Russia and to a truly free and democratic form of government for the Russian people. His personal history has been a succession of constant dangers, arrests as a spy, and periods in concentration camps, (Nazi and Soviet). Dashing and dynamic, and fired with a patriotism which transcends personal consideration, his purpose in stepping out of his underground role is to acquaint the American people with the true facts of what is actually going on in Russia, in the minds and hearts of the people themselves. Here is not a reporter seeking to rend the Iron Curtain. Here is a sincere and patriotic Russian leader, who speaks brilliantly and forcefully from inside Russia straight to the American people from his own personal first-hand knowledge and experience.

Admittance is to all Alumni and friends. Come one, come all.

We sincerely hope you can join us.

Fred Hohlt, President, IUSDAA

Former Graduate Appointed to State Board

Governor Robert Meyner of New Jersey has recently appointed Dr. Joel R. Fertig to the State Board of Dental Examiners. At 40, Dr. Fertig is one of the youngest dentists appointed to a state board. He is a graduate of the 1944 class and is past-president of the Middlesex County Dental Society.

Senior Honor Day Awards

The Dental Honors Day program was held in the Student Union Building at the I. U. Medical Center on Sunday afternoon, June 5. The program, honoring 61 dental seniors and 22 dental hygiene graduates, was directed by Dean Maynard K. Hine and was attended by the families and friends of the two classes. A reception followed the ceremony.

Graduates with high distinction, Richard Elzay and Richard Henry, and the graduates with distinction, William Gordon, Harvey Levinson, William D. Leyda, Leroy Kochert, Monte O'Conner, William Potucek, and dental hygienists Norma Laviola and Roberta Polson were presented fourrageres.

The American Academy of Gold Foil award was presented to Richard Henry, who also received the C. V. Mosby award in dental materials, third prize in the senior essay contest, was elected to Omicron Kappa Upsilon national honor dental society, and showed an outstanding scholastic record for four years of dental study at Indiana University School of Dentistry. The new Ert J. Rogers Memorial Award in Crown and Bridge was presented to Mr. Henry from the Xi Psi Phi Alumni Association.

Mr. Elzay also received the C. V. Mosby Award in Oral Diagnosis, honorable mention in the senior essay contest, and was elected to membership in Omicron Kappa Upsilon national honor dental society. Mr. Joseph C. Minnis was awarded first place in the cancer research essay contest with second place going to Robert L. Gayle, and third place to John P. Farmer, who won top place in the radiology diagnosis contest.

The certificate for proficiency in dental medicine was presented to James O. Hennigar and the certificate of merit from the American Society of Dentistry for Children was awarded to Warren B.

David. Mr. Ray Maesaka received the American College of Dentists award as the student showing the most improvement since his freshman year.

Miss Fisk conducted the dental hygiene pinning ceremony and Miss Revers, President of Theta Chapter of Sigma Phi Alpha presented memberships to Norma Laviola and Roberta Polson. The wives of the dental seniors were presented "P.H.T." certificates by their husbands as recognition of their "pushing husbands through" four years of dental school. The complete list of awards follows.

Fourrageres:

for high distinction—

Richard Elzay

Richard Henry

for distinction—

William Gordon

Harvey Levinson

William D. Leyda

Leroy Kochert

Monte O'Conner

William Potucek

Norma Laviola, dental hygiene

Roberta Polson, dental hygiene

C. V. Mosby Awards for proficiency:

dental hygiene—Norma Laviola

prosthetics—Earl R. Ley

oral diagnosis—Richard P. Elzay

orthodontics—Reece A. Townsend

dental materials—Richard W. Henry

Omicron Kappa Upsilon Radiology Diagnosis contest:

1st—John Farmer

2nd—Phillip O'Shaughnessy

3rd—William Gordon

Cancer Essay Contest (U. S. Public Health Service) awards:

1st—Joseph C. Minnis

2nd—Robert L. Gayle

3rd—John P. Farmer

Senior Essay Contest:

1st—Wallace Leyda

(Continued on page 33)



Newly elected members of Omicron Kappa Upsilon: Front, R. Henry, M. O'Conner, L. Kochert, W. Gordon, R. Elzay. Rear, W. Potucek, W. Leyda, H. Levinson and Dr. Robert Derry, President of Theta Theta Chapter.



Dr. Walter Crum presents award from American College of Dentists to Ray Maesaka as student showing most improvement since freshman year.

Dean Hine Reports...

We wish to focus the attention of dental alumni on our annual Senior Honors Day program. All are invited to this meeting, which is held the day preceding Commencement each year, and is designed to give special recognition to those who have excelled in one aspect or another of their dental education. This year 23 senior dental students and three dental hygienists received special recognition. Relatives and friends of the graduating dental students and dental hygiene students attended the program which ended with light refreshments. Top scholastic honors this year went to Dr. Richard W. Henry from Evansville. Details of this year's honor program are reported elsewhere in this issue. Why don't you plan to attend next year?

Alumni will be interested to learn of the changes that have occurred recently in the dental clinics in the various Medical Center hospitals. The dental clinic of Long Hospital has been transferred to the first floor of Long as a part of the "Out Patient" department. The area assigned for the dental clinic was completely remodeled and now is an efficient and convenient dental clinic. Similarly, the dental clinic at Riley Hospital has been expanded, modified and equipped to make it possible to treat many more patients. A new dental clinic has been established in the Rotary Building for handicapped children, particularly those with cerebral palsy. There is also a dental clinic in LaRue Carter Hospital, General Hospital and the VA Hospitals

(Continued on page 36)

The Graduate Program — Its Progress

by Joseph C. Muhler, Secretary, Graduate Dental Program

The Graduate Program in the School of Dentistry began advanced studies in the Fall of 1946 and graduated its first student in 1947 with the degree, Master of Science. In 1951 the graduate program was re-evaluated and in 1954 a new program was approved by the respective Deans of the Dental School and the Graduate School on the Bloomington campus. The result of this re-evaluation was basically to differentiate between the M.S. and the M.S.D. program, and to enlarge the course offerings. Since this time the program has increased its course offering each year, as well as its faculty and number of graduate students. Since the inception of the program in 1947 a total of 63 students here received advanced degrees—19 M.S. and 44 M.S.D.

These were received as follows:

1947	1	1 M.S.	
1950	2	2 M.S.	
1951	2	2 M.S.	
1952	2	2 M.S.	
1953	2	2 M.S.	
1954	1	1 M.S.	
1955	3	3 M.S.	
1956	6	2 M.S.	4 M.S.D.
1957	2		2 M.S.D.
1958	13	1 M.S.	12 M.S.D.
1959	12	2 M.S.	10 M.S.D.
1960	17	1 M.S.	16 M.S.D.
	<hr/> 63	<hr/> 19	<hr/> 44

The number of applicants has similarly increased each year. During the 1959-60 school year 263 applications were processed in order to provide the Graduate Committee with the necessary in-

formation to admit 25 new entering students. At present there are 54 different students enrolled in the graduate program.

The present graduate faculty is composed of the following instructors: Dean and Professor Hine, Professors Adams, Healey, Hopper, McDonald, Mitchell, Muhler, Phillips, Shafer; Assistant Professors Bixler, Burstone, Dworkin, Rogers, Standish; Consultant Howell. The advisory faculty is composed of: Professors Bailey, Boyd, Gregory, Hughes, Johnston, Van Huysen; Associate Professor Swenson.

The present curriculum offers advanced degrees in the following major subjects: Anatomy, Biochemistry, Crown and Bridge Prosthetics, Dental Materials, Endodontia, Operative Dentistry, Oral Diagnosis-Oral Medicine, Oral Pathology, Orthodontia, Pedodontia, Periodontia, Preventive Dentistry, Prosthetic Dentistry, Public Health and Radiology.

One of the major contributions being made by the graduate program is the education of foreign dental graduates. During the 1959-60 school year a total of 12 foreign students were enrolled as full-time graduate students. These students came from India, Egypt, Thailand, Brazil and Canada. It is felt that considerable advances in international dental relations can be accomplished by such actions, and the graduate faculty, in general, are well aware of the improvement being made in dental health sciences by such students when they return to their native countries.

In order to demonstrate the wide range of topics being studied by the different students, an examination of the thesis titles from the last year's graduating class may be of interest:

"A Study of Forces Exerted by the Orthodontic Archwire and Its Auxiliaries."

"Child Behavior and the Dental Experience."

"Calcium Deficiency and Experimen-

tal Periodontal Disease in Syrian Hamsters."

"An Investigation of the Dental Pulp Hemogram as a Diagnostic Aid for Vital Pulp Therapy."

"Effects of Experimental Hypervitaminosis D on the Periodontium of the Syrian Hamster: A Histologic Study."

"Force Values and Rate of Distal Movement of the Mandibular First Permanent Molar."

"The Effects of Certain Additive Agents Upon the Physical Properties of Zinc Oxide and Eugenol Mixtures."

"The Influence of Surface Texture of the Cavity Walls on the Adaptation of Restorative Materials and a Method for Quantitatively Measuring Marginal Leakage."

"The Effect of Stress and Desalivation on the Healing of Extraction Wounds in the Albino Rat."

"Factors That Affect the Fitting and Physical Properties of Fixed Bridge."

"Dimensional Stability of the Metal Denture Base as Compared With the All-Resin Denture Base."

"A Study of the Effects of Colored Opaques on Porcelain Veneers Fused to Gold Castings."

"Observations of the Effects of High Frequency Sound Waves on the Skin and Oral Tissues of the Rat."

"A Serial Cephalometric Study of Human Maxillary Growth."

"A New Approach to the Topical Application of Fluorides for the Reduction of Dental Caries in Children."

"A Cephalometric Investigation of the Dento-Skeletal Morphology of Class II, Division 1 Malocclusions."

"The Effect of Highly Concentrated Solutions of Stannous Fluoride on Human Gingival Tissue."

Any of these theses are available to the Alumni for their inspection and reference, and can be obtained by writing directly to the Library at the School of Dentistry, Indianapolis, Indiana.

Dental Hygiene

A. Rebekah Fisk, Director

Sunny blue skies and a cool breeze contributed to the enjoyment of the 1960 graduation activities. During the traditional Honors Day program on Sunday, June 5, all of the graduating dental hygienists received their class pins, and several received special awards.

The Mosby award was presented to Norma Lee Laviola for high scholastic standing and clinical proficiency. The Indiana State Dental Hygienists' Association award for clinical proficiency was presented to Marilyn Ann Lorenz. Roberta Jane Polson and Norma Lee Laviola were elected to membership in Sigma Phi Alpha, honorary dental hygiene society and received their certificates from Miss Pauline Revers, D.H., 1952, President of Theta Chapter.

On successful passage of their state board examinations, the 1960 graduates will be associated in practice in Indiana, as follows:

South Bend:

Judith K. Arnott—Dr. Ralph Brennan and Dr. Edward Lawton
Patricia Barker—Dr. Wayne Risinger and Dr. Alfred Fromm

Bloomington:

Karen Sue Nickas—Dr. Robert B. Baugh and Dr. Joseph E. Devich
Roberta Jane Polson—Dr. John G. Baranko, Dr. Hollis Sears, and Dr. Donald C. Tyte.

Fort Wayne:

Kathryn Ann Owens—Dr. Ralph G. Schimmele

Pamela Seabold—Dr. William Kunkel,
III

Plymouth:

Sally Ann Alcock—Dr. Roy M. Pownall

Indianapolis and Vicinity:

Sonia Harra Bechaka—Dr. E. Harrison Cole

Elizabeth Sue Graffis—Dr. George W. James

Norma Lee Laviola—Dr. Jack D. Carr
Marilyn Ann Lorenz—Dr. Robert P. Nickels

Elizabeth A. Campbell—Dr. Robert E. Fisher

Joyce Loretta Schenck—Dr. Leon B. Turner

Nancy Jo Patterson—Dr. George W. Simpson

Terre Haute:

Jane Hazledine—Drs. Wade and Frank Anshutz

Marolyn Dee Gill—Dr. Byron E. Price and Dr. L. P. Lucarelli

Richmond:

Judith C. Cunningham—Dr. John V. Linn and Dr. Everett L. Ringenberg

Winchester:

Wilhelmina L. Res—Dr. V. R. Williams

Logansport:

Judith Lyn Dixon—Dr. Dale E. Goris and Dr. Louis Shanteau

Louisville, Kentucky:

Carolyn Lee Gill—Dr. O. B. Coomer
Joyce M. Perkins and Joann Kay Kritikos will take the Illinois Board.

Carol Sue Arnold and Edna Mae Ralley, D.H., 1959, received Bachelor of Science degrees in Health Education at graduation. Edna has accepted a position with the State Board of Health, and Carol with the Dental Study on the Bloomington campus.

POSTGRADUATE SEMINAR FOR DENTAL HYGIENISTS

A seminar for graduate dental hygienists is being planned for Wednesday, March 15 and Thursday, March 16, 1961. The program will include a review of some subject matter of interest to the dental hygienist and information relative to recent developments in the

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The Library

Mrs. Mabel Walker, Librarian

Currently it is planned to publish in this column or elsewhere in the ALUMNI BULLETIN, the Abstracts and Conclusions of the Master's Theses submitted to the Faculty of the Graduate School of Indiana University School of Dentistry. To begin the series, Abstracts and Conclusions of four of the recent theses are presented in this issue as follows.

A STUDY OF THE EFFECTS OF COLORED OPAQUES ON PORCELAIN VENEERS FUSED TO GOLD CASTINGS, John F. Johnston, April, 1960.

ABSTRACT

The chronological history of the process of fusing porcelain veneers to gold castings and of the problems associated with it is mentioned briefly, together with a list of the materials and devices to be used. The literature pertaining to bonded porcelain veneers is catalogued and analyzed in reference to the effects of colored opaques on the final fused veneer. The procedure, determined as the one most likely to enable the worker to gather the desired data, is described. This embraced the making of castings from the alloy used in clinical construction, 16 mm. x 16 mm., each with four depressions 1.0 mm. to 1.2 mm. deep. Opaques and veneers were fused to the alloy and confined by the walls of the depressions. The opaques used ranged from white and four standard colors (supplied by manufacturer to dental profession) through white altered by the addition and graduated amounts of gray opaque and also through several series of white altered by either mineral stains or other colors of opaque.

Combinations of the porcelain powders, opaques, and stains were attained

by weighing the increments and through a standardized mixing technic and a highly systematized routine of application and firing. A glazed or reflecting surface was produced by timing and observation.

While twenty-eight series of specimens were produced and measured, only five seemed to have any bearing on the area of this thesis. These have been discussed in sufficient detail for explanation. Two, employing a white opaque, were built first to furnish a standard for comparison with the specimens over colored or stained opaques.

The three measurements listed indicate basic lightness and the transitions from orange and red through gray to green and from yellow through gray to blue. Using the Hunter Color and Color-Difference Meter, the measurements made on these (or any other) specimens define a color in the sense that any other specimen having the same numerical evaluation will have the same color or one acceptably similar.

Variables, expected and unexpected, are described and causes are discussed.

"In vivo" studies, or the attempts to employ ideas and mixtures of colors suggested by specimen measurements, are discussed to show the impossibility of such a transfer. The variables, and contradictory elements tending to produce unexpected results, are listed briefly.

No specific conclusions or statements of shade formulas were possible but some trends were either indicated or opinions of trends substantiated. The need for each person or laboratory participating in the use of the materials, to construct a shade guide and to preserve the formulas for each shade guide unit, and the necessity for experimental blending to satisfy visual acceptability

of color matching seem to be the outstanding contributions from this study.

CONCLUSIONS

No specific conclusions are possible from the 2800 hours of work or the 900 specimens involved in this study. In the midst of this experiment, manufacture of the porcelain was transferred from The Columbus Dental Mfg. Company to The Dentists' Supply Company. Also, some of the ingredients and grain sizes were altered. Constant changes in formulas have been and are still being effected.

From a study of the mathematical measurements, it would appear that

- (1) all colored opaques tend to produce a slightly greater appearance of grayness;
- (2) a thickness of opaque of at least 0.2 mm. is necessary to eliminate any influence from the underlying oxidized metal;
- (3) a porcelain veneer of 0.6 mm. in thickness will effectively cancel all except the darkest opaques;
- (4) surface flatness in all specimens is essential to consistent measurement with this instrument;
- (5) veneers contoured to reproduce tooth form cannot be accurately measured;
- (6) translucent porcelain added in quantities sufficient only to give a visual appearance similar to that of the natural tooth, will not appreciably alter the measurements obtained from the similar basic shade without translucent powder;
- (7) condensation, surface form, entrapped air bubbles and impurities, method of fusing, period of fusing, and surface sheen affect the mathematical measurement;
- (8) trial and error methods, and the involvement of a shade guide by the individual (which has been

advocated by many men for a considerable period of time), seem to be the only solution to shade matching clinically.

THE EFFECTS OF CERTAIN ADDITIVE AGENTS UPON THE PHYSICAL PROPERTIES OF ZINC OXIDE AND EUGENOL MIXTURES, Dwain

R. Love, January 20, 1960.

ABSTRACT

Compressive strength, solubility and disintegration, setting time, and film thickness were measured on experimental mixes of zinc oxide and eugenol to which had been added varying concentrations and combinations of the following additives: o-ethoxybenzoic acid, polystyrene, methyl methacrylate resin, fused silica and zinc acetate.

O-ethoxybenzoic acid (EBA) decreased the setting time, improved the strength, and increased the solubility of zinc oxide and eugenol.

Polystyrene improved the strength of mixtures containing EBA while decreasing the solubility of the mixtures.

Fused silica improved the handling characteristics of the experimental mixtures, but did not improve their strength.

Methyl methacrylate resin produced results similar to polystyrene.

Zinc acetate effectively accelerated the setting times of all mixtures.

The results demonstrated that strength, setting time, film thickness, and handling characteristics were satisfactory in terms of a permanent dental cement, but solubility was increased beyond the profession's present standards.

CONCLUSIONS

1. O-ethoxybenzoic acid (EBA) increases the compressive strength of zinc oxide and eugenol mixtures, corroborating the work of Brauer. EBA must be present in at least equal parts with eugenol to produce significant increase in strength value.

2. The addition of polystyrene alone to zinc oxide and eugenol does not markedly increase the compressive strength.
3. Zinc oxide produced from the thermal decomposition of zinc carbonate when mixed with eugenol does not produce a harder or stronger set mass but rather a weak, rapid setting, non-tacky mixture which might be applicable as a temporary restoration.
4. The addition of fused silica to the mixtures in this study did not increase the strength significantly. Some fused silica seemed to be necessary, 10 percent or more, to produce a smooth working mass.
5. The addition of polystyrene to EBA and eugenol increases the strength of the mixtures tested approximately 1400 to 1600 pounds per square inch.
6. Polystyrene reduces the solubility of EBA-eugenol mixtures approximately 1.5 percent.
7. Fused silica increases solubility very slightly.
8. The addition of 0.5 percent zinc acetate to the powder portion apparently increases solubility of the product very slightly.

DIMENSIONAL STABILITY OF THE METAL DENTURE BASE AS COMPARED WITH THE ALL-RESIN DENTURE BASE, Robert Eugene Tarplee, October 28, 1959.

ABSTRACT

The metal-reinforced resin denture is often recommended for certain types of dental prosthesis. Publications have stressed: (1) the compatibility of the metal to the tissues; (2) the influence of the thermal conductivity of the metal; (3) the superior resistance to deformation; and (4) the resorption of the alveolar ridge as related to the deformation of the all-resin denture base under stress.

Unfortunately, most of these studies were empirical and not well controlled.

One characteristic that has not been reported is that of the dimensional stability of the resin-base dentures as compared with the metal-base dentures. This in vitro study was designed to determine the dimensional stability during polymerization, upon removal from the cast, and upon water imbibition. In addition, the warpage was measured after performing two severe warpage tests.

Twelve dentures, both maxillary and mandibular, were waxed up, processed, deflasked and stored in a water bath for a month. Carefully repeated measurements were made before and after curing (still on casts), after removal from the casts, and at weekly intervals up to one month.

During the polymerization, all dentures increased in size. The increase in linear dimension was of the same order for both the all-resin as well as the metal-based dentures.

When the curing shrinkage of the bases was tabulated, it was discovered that the metal reinforcements in the metal-based dentures prohibited the usual curing shrinkage from taking place. In the water sorption tests, it was found that there was no measurable distortion of the metal reinforced bases.

The warpage tests were: (1) pouring an over-spatulated mix of plaster of Paris into each denture; and (2) boiling the dentures for fifteen minutes. In the first tests, both types of bases distorted slightly but the change was less with the metal-bases. Elastic recovery after removal from the plaster casts was slightly better when the metal-bases were used. In the boiling water experiments, the resin-bases warped more than the metal-bases. The lower resin-dentures warped as much as 1.79 mm in one instance across the molar area. The warpage tendencies of the resin-bases were erratic

while the metal-bases showed a relatively consistent distortion pattern and the magnitude was markedly less.

The clinical significance of these findings and other investigations required in this area are discussed.

CONCLUSIONS

A series of twelve dentures were tested in vitro in order to determine the dimensional stability of maxillary and mandibular all-resin and metal-resinforced resin bases.

The following conclusions were drawn:

1. Following polymerization, when measured on the cast, the plaster increments produced distortion with both types of bases. The amount of distortion was small; however, it was slightly greater in the resin-metal dentures.
2. The dimensional change upon removal of the dentures from the cast was negligible for the resin-metal base.
3. There was no distortion due to water sorption with the resin-metal denture.
4. Linear expansion occurred when a plaster cast was poured into the denture; however, the expansion was slightly less with the resin-metal bases.
5. When the two types were warped by boiling water, there was a large distortion in the resin-bases and markedly less in the resin-metal bases.
6. On the bases of the test methods employed, the dimensional stability of metal-reinforced denture bases and all-resin denture bases are very comparable.

CALCIUM DEFICIENCY AND EXPERIMENTAL PERIODONTAL DISEASE IN SYRIAN HAMSTERS, Navin Thakorlal Desai, December, 1959.

ABSTRACT

The role of calcium in the physiology

and pathology of the periodontium is much disputed in the literature. The aim of this experiment was to study the role of a low level of dietary calcium on experimentally induced periodontal disease in hamsters. Fifty male and fifty female hamsters were maintained on a soft, high carbohydrate diet for over three months. After about one hundred days, white plaques were seen around the necks of the molars, indicative of periodontal disease. The animals were then equally divided into control and experimental groups and were kept on a synthetic diet with adequate (.5%) and low (.15%) levels of calcium for a month. A five day calcium metabolism study was conducted during the experimental period. At the time of sacrifice, the periodontal score was noted for each animal by judging the number of gingival surfaces at the necks of the teeth which had plaque visible under the dissecting microscope. Femurs were dissected out, and kidneys and salivary glands were removed and preserved for histologic study. A detailed bone assay on femurs and carcass was run. The periodontal experience of the experimental group did not differ significantly from the controls. Histologically, mild periodontal disease was observed in both the groups, not differing in severity or extent. The number of bony trabeculae in the diaphyses of the femur was somewhat reduced in the experimental animals. The calcium metabolism study and the bone assay indicated calcium deprivation in the experimental group.

CONCLUSION

Sixty Syrian hamsters of both sexes were maintained on a soft diet, high in carbohydrate, but otherwise nutritionally adequate for over one-hundred days. After that period, grossly visible plaques were observed around the necks of the teeth, indicative of periodontal disease. The animals were then divided into con-

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Alumni Notes

by Mrs. Cleona Harvey, Recorder

Hello again! It seems as if we just finished getting out information for the Alumni Notes for the last issue of the Bulletin—time surely does fly! I am glad to report that I am back on the job full time—things are progressing about as usual at the dental school—add to that the building program and what do you get? Those dental school “daze” (that I am going to write about some day!).

It is a real pleasure to serve you through this column, giving you information about your classmates; believe me, I enjoy reading all those letters (and particularly the get-well cards you sent me); I only wish more of you would send us the latest “scoop” about your activities. We would be pleased to bring your “news” to the attention of your classmates, even as we now bring to you information about . . .

Class of 1910

Since this is the 50th anniversary of the Class of 1910, we want to give you the latest information we have on them.

Dr. Roy F. Barnard

Deceased

Dr. Frank W. Bethell

Deceased

*Dr. Walter M. Broughton

Spencer, Indiana

Dr. Harris L. Burris

Box 114

Long Beach, California

“I served in the dental corps of the Army, War I for one year, War II for five years, retired with rank of Lt. Col. From May '46 through October '52 Dental Rating Specialist with VA.”

Dr. Charles H. Carpenter

Deceased

Dr. Thomas H. Casey

Deceased

Dr. Albert B. Claypool

Deceased

Dr. Charles P. Conklin

Deceased

Dr. John E. Davidson

Deceased

Dr. Ralph C. Day

Deceased

Dr. Joseph M. Doyle

Deceased

Dr. John W. Fullenwider

315 West 5th Street

Los Angeles, California

Dr. I. Lester Furnas

928 Silverado

La Jolla, California

“I am now in a specialty of prosthodontics; let's say I am semi-retired. I am in excellent health and having the most fun of any time in my life.”

Dr. Ralph Gephardt

815 West 8th Street

Anderson, Indiana

“I have enjoyed by practice, had lots of fun, educated three children and had Lester Furnas as a classmate. What else?”

Dr. D. J. Harris

Deceased

Dr. Arthur C. Harvey

Deceased

Dr. George W. Havens

407 West Fifth Street

Rushville, Indiana

“I retired about 15 years ago.”

Dr. Charles J. Hawkins

611 Hulman Bldg.

Evansville, Indiana

“I retired about 15 years ago.”

Dr. Wilbur R. Hooper

Box 263

Amboy, Indiana

“There were fourteen members present at the 50th anniversary re-

union out of about twenty remaining members."

Dr. William W. Ketcham
Deceased

Dr. Raymond King
322 East Cherry Street
Evansville, Indiana
"Retired from Army in 1948. Lt. Col. Dental Corps."

Dr. Archie L. Latimer
Deceased

Dr. Frank B. McAdams
Boswell, Indiana
"Partially retired. Our class held a dinner at Claypool Hotel May 17. There were thirteen present of our class of 48—I understand there are but 20 living of this class."

Dr. James J. McCloskey
Deceased

Dr. Edgar A. P. McMullen
Deceased

Dr. Roy T. Marshall
Deceased

Dr. Eldo O. Metzger
4006 Broadway
Indianapolis, Indiana

Dr. L. A. Musser
5161½ Phoenix Street
South Haven, Michigan
"I have practiced 48 years in South Haven, Michigan."

Dr. Lee L. Organ
Deceased

Dr. Frank L. Owens
Deceased

Dr. George W. Perlee
Deceased

Dr. Monte C. Phillips
Jefferson-Ohio Streets
Rockville, Indiana
"It was a pleasure to meet after 50 years with 13 members of the 1910 class."

Dr. Jesse W. Rhodes
Deceased

Dr. Arthur J. Rockford
No trace

Dr. J. L. Rohm
Deceased

Dr. C. D. Ross
908 East Michigan
Michigan City, Indiana

Dr. Gordon T. Runcie
Deceased

Dr. Isador Seidel
Deceased

Dr. J. F. Shaddock
Deceased

Dr. Scott W. Shields
Deceased

Dr. Alexander F. Stamm
Deceased

Dr. Warren L. Stamper
Deceased

*Dr. William W. Stuart
2544 Boulevard Place
Indianapolis, Indiana

Dr. W. G. Torrence
315 Fairbanks Bldg.
Terre Haute, Indiana

Dr. Clyde W. Weaver
7845 Allisonville Road
Indianapolis, Indiana

"The Esprit de Corps of the 1910 Class has indeed been unique. Of the 18 remaining members, 13 were present at the 50th anniversary."

Dr. Rollin F. Wilcox
101 Monger Bldg.
Elkhart, Indiana

"13 present out of 18 alive at Class Reunion! Three were in the hospital. I retired August 1, 1954."

Dr. Garland L. Young
Deceased

And now for news of the

Class of 1909

Dr. Charles E. Morgan, 5309 Hill Street, Indianapolis, Indiana, called us and reported that he retired last year; is now enjoying just cutting grass, fishing and traveling!

Class of 1915

We received a letter from the sister of Dr. Curtis L. Ralston, who reports

that Dr. Ralston's health is very bad; he is now in a nursing home in Salisbury, North Carolina. Anyone interested in writing to him may contact his sister, Mrs. Ira Stauffer, 307 East Beaver Street, Zelienople, Pennsylvania.

Class of 1918

We received a letter from Dr. R. E. McKee, 37 S. E. 7th Street, Miami 32, Florida, who writes,

"Recently I retired after many years of successful practice, thanks to the fine training I received there. Now I have a position in Miami teaching dental assistants at the Lindsey Hopkins Vocational School."

Class of 1922

Dr. Macy G. Martin, 6454 Lucente Drive, Hyde Park, Jacksonville 10, Florida, writes,

"I have just finished reading every word of the March 1960 issue of the Alumni Bulletin. It is such a real pleasure, after all the years, to read a note from Lester Furnas, Jerry Timmons, names like Lant Clark, or Elmer Waddell, Ed Sell, Orin Luse or Byron Deakyne. It brings back to me so many thoughts that I value deeply."

"On 1 July 1960 I will complete 32 years active duty with the Navy Dental Corps. I have received orders for retirement and intend to make Jacksonville, Florida, my home port. The Navy has been good to me, I have completely enjoyed all the benefits and regret that the time has arrived to change from uniform to civilian. Mrs. Martin and I have one daughter, who with her four children lives in China Lake, California."

"All good wishes to my friends and especially to the Class of 1922."

Class of 1927

We are informed that the current address of Dr. Luther C. Lucas is 2128th S.U., Fort Knox, Kentucky.

Class of 1944

Dr. Joel R. Fertig, 46 Bayard Street, Edgebrook, New Jersey, has been ap-

pointed to the New Jersey State Board of Dental Examiners. He is one of the youngest dentists to be named to the State Board.

Class of 1945

Dr. William Glazer, 42 West Avenue, South Norwalk, Connecticut, writes,

"Am deriving more enjoyment from dentistry than I expected at the time of schooling! Heard from Stanley Schwartz—just had their fourth child. I am married and have three children. Give my regards to everyone."

Class of 1947

The February 1960 issue of Dental Survey contains a very interesting story about our alumni Dr. Norman R. Alley. It seems that for the first time, the Orange Bowl Queen had an official song written by a dentist. Dr. Alley read that a Philadelphia dentist had composed the "Miss America" melody which is sung at the Atlantic City pageant each year and began to wonder if a song had ever been written for the Orange Bowl Queen. He "spent a few evenings at the piano and came up with the words and music for 'Queen of the Orange Bowl'." Dr. Alley, who has been in general practice for the past 12 years, has made a hobby of music but has never before had a song published. He and his family have their own home orchestra.

Class of 1952

We received a change of address for Dr. Alfred T. Cardwell to 1740 Ellsworth, Gary, Indiana.

A change of address has also come in for Dr. Robert L. Quillen, whose new address is Eastgate Plaza, Logansport, Indiana.

Dr. Rafael Aponte, 309-311 De Diego Avenue, Suite No. 6, Santurce, Puerto Rico, recently wrote,

"Private practice, oral surgery, and postgraduate education at school keep me on the go, but I manage some time off in between. I shall soon go to Georgetown University for a five-day refresher"

course in intravenous anesthesia. It will be fun to see friends up that way."

Class of 1953

A letter recently received from Dr. Thomas Garman, DC, USN, Box 21, Clarksville Base, Clarksville, Tennessee, gives us the following welcome information:

"We returned from Port Lyoutey, Morocco, in July of 1959 after two of the best years of our lives. The Navy has some wonderful foreign duty stations. While there we drove through Spain, France, Luxembourg, Germany and Switzerland, plus visiting many exotic places in Morocco.

"Last September I began the General Postgraduate Course at the U. S. Naval Dental School at Bethesda, Maryland. There are 28 dental officers in our class and we will graduate on July 1 of this year. I can't think of words fine enough to describe the postgraduate school. Suffice to say, perhaps, that it almost equals I.U.S.D. This has been ten months of intensive training and I have never worked harder, but the rewards have certainly been commensurate with the effort. I have never regretted for one moment my choice of the Naval Dental Corps as a career. Incidentally, just last week I was promoted to the rank of Lieutenant Commander, and this event is always well received by any member of the military service. Classmate Tom McKean, now stationed in Bermuda, received his promotion at the same time.

"As of July 1, we will be on the move again. My address after that date will be LCDR. T. A. Garman, DC, USN, Box 21, Clarksville Base, Clarksville, Tennessee. This will be as close to home as we have been in several years and we are looking forward to the new duty assignment.

"We trust this letter finds everyone at I.U.S.D. in good health . . . our family is in excellent health and spirits. . . . My

best regards to all the faculty and staff at the school."

Class of 1954

Dr. John S. Szakaly, 2730 Lincoln Way West, South Bend, Indiana, writes to inform us of the addition to his family:

"My other three boys, Martin 8, Christopher 4, Daniel 3, my wife and I welcomed the arrival of Anthony. Mother and son are doing fine."

Class of 1955

Drs. Werner and Ursula Bleifuss, 18786 San Quentin Drive, Lathrup Village, Michigan, sent greetings.

Class of 1956

Dr. Ronald G. Melser, 316 L.W.E., Mishawaka, Indiana, writes,

"I was discharged from the Navy in the fall of 1958 and have been practicing in South Bend before moving to Mishawaka. We now have three children—two boys and one girl—and reside at 3805 St. John's Way, South Bend."

Class of 1958

The latest address of Dr. Russell C. Boyd, as given to us in April, is 1866B Florida Avenue, Homestead AFB, Florida.

Class of 1959

Dr. Rolando Bernui, 7510 Cartwheel Lane, Lackland Terrace, San Antonio 27, Texas, wrote us,

"Ever since I left Indianapolis time seems to have passed so rapidly that I haven't had much chance to write letters . . . as you will notice from my address, above, I am now living in Texas serving with the U. S. Air Force and I expect to be stationed at this base for a while. Taking advantage of the situation I would like to take the Texas State Board."

We received a note from Dr. Robert M. Gordon giving us the address of 9 N. W. Second Street, Evansville 8, Indiana.

Dr. George Stratigos' new address is Queens Hospital Center, 82-68 164th

Street, Jamaica 32, New York, where he is taking a residency in oral surgery as of July 1, 1960.

We note that Dr. Robert Walls has opened an office at 1927 East 62nd Street, Indianapolis, Indiana.

A letter—nice and newsy, the kind we love to receive from you graduates—from Dr. Kent E. Wilson, 5060th USAF Hospital, APO 731, Seattle, Washington, dated 29 March, 1960, gives us the following:

"I am stationed with the Army at 'America's Farthest North Air Base', Ladd AFB, and have decided to take the Alaska State Board Exam. . . . I suppose the new wing on the school is progressing pretty well by now. I did get home for Christmas and stopped in to see the 'big change' and it hadn't changed! I hope they have the strike settled!"

"I suppose the balmy Indiana weather has started already. I actually don't miss that weather at all. This weather is much nicer here; it is still -10 at night and we still have 3 feet of snow but every day is bright and sunny for about 13 hours. It's fine skiing and flying and it could be worse."

"Dentally speaking, it is probably as good here as anywhere in the service. . . . I have had many opportunities to discuss many phases of dentistry with dentists from several different schools, thereby comparing them with I. U.'s curriculum. I can sum up the comparison by stating that I am certainly glad I graduated from I. U. It appears head and shoulders above the rest in most phases of dentistry and particularly shines in Crown and Bridge and Partial Denture and Operative. You might pat Dr. Johnston on the bald head and say that except for those appointment sheets, he has a fine department!"

We sent out a letter to the Class of 1926—and have the following information for you. An asterisk indicates that we did not receive a reply to our letter.

If any of you have a better address, please let us know about it!

Class of 1926

Dr. L. F. Abel

1018 S. Tompkins
Shelbyville, Indiana

(Service address, Qts. 10603 MCSC,
Albany, Georgia.)

*"Have been in the Navy 19 years,
rank Captain. Been at Albany for
three years."*

Dr. Frederick C. Baker

1442 Collins Road
Fort Myers, Florida

*"Come down and see me some
time."*

Dr. William E. Barb

Deceased

Dr. Charles W. Beck

Rural Loan Bldg.
Hartford City, Indiana

*Dr. Fred M. Bent

272 S. Wabash
Wabash, Ind.

Dr. Benjamin E. Berger

207 5th Avenue
McKeesport, Pennsylvania

Dr. Victor J. Blue

Deceased

*Dr. James A. Borders

2821 E. 10th Street
Indianapolis, Indiana

Dr. Robert Botkin

Deceased

Dr. Paul W. Brown

Dale, Indiana

Dr. Newton M. Campbell

504 Broadway
Gary, Indiana

Dr. Russell M. Cline

Deceased

Dr. Seborn M. Cornell

Deceased

Dr. Edward D. Cromley

1318 N. W. 15th Street
Fort Lauderdale, Florida

"Retired"

- Dr. George C. Crouse
615 Anderson Bank Bldg.
Anderson, Indiana
- Dr. William B. Currie
815 Underwriters Bldg.
Indianapolis, Indiana
- Dr. Walter M. Denaut
407 Van Buren St.
Walkerton, Indiana
"Just another old grandfather"
- Dr. Robert F. Denny
2821 Atlantic Blvd.
Pompano Beach, Florida
- Dr. Harold C. Dimmich
111 Esmond Street
Fort Wayne, Indiana
- *Dr. H. H. Dittbrenner
Citizens Bank Bldg.
Noblesville, Indiana
- Dr. William M. Duncan
1905 Salem Avenue
Dayton, Ohio
- Dr. Ralph W. Elsea
2911 Shelby Street
Indianapolis, Indiana
- *Dr. Norman T. Enmeier
207 Pythian Bldg.
Tulsa, Oklahoma
- Dr. Walter Evans
Deceased
- Dr. Merwyn C. Ewart
Greenup, Illinois
- Dr. Kenneth L. Flora
Deceased
- D. Garland H. Fross
3114 Mishawaka Ave.
South Bend, Indiana
- Dr. John M. Gainey
3119 West 30th St.
Indianapolis, Indiana
- Dr. Russell D. Gallagher
2035 North Harding Street
Indianapolis, Indiana
"Retiring about July 1, 1960."
- *Dr. Horace A. Garoutte
400 Equity Bldg.
Elkhart, Indiana
- *Dr. Robert K. George
507 East 34th Street
Indianapolis, Indiana
- Dr. Anton Gerster
717 North Grand Avenue East
Springfield, Illinois
- Dr. Roy D. Grube
607 JMS Building
South Bend, Indiana
- *Dr. Hilbert L. Hoffman
253 Citizens Bank Bldg.
Anderson, Indiana
- Dr. Alva O. Humphreys
Deceased
- Dr. Kemper Hur
2537 Far Hills Avenue
Dayton, Ohio
- *Dr. Earl Keiser
Plymouth, R. R. #4, Indiana
- *Dr. Harold R. Kleiber
P. O. Box 127
Lowell, Indiana
- *Dr. Charles W. Logan
930 West Walnut Street
Louisville, Kentucky
- Dr. Maurice P. Lord
614 Life Bldg.
Lafayette, Indiana
- *Dr. Carl G. Lundy
Box 471
Molalla, Oregon
- Dr. Howard K. Maesaka
509 Olive Avenue
Wahiawa, Oahu, Hawaii
- *Dr. Gorman F. McKean
205 West Huntington Street
Montpelier, Indiana
- Dr. Paul T. McNabb
Deceased
- Dr. Herbert W. Mason
658 Fairfield Avenue
Indianapolis, Indiana
- Dr. Glendon R. Mast
314 Rose Dispensary Bldg.
Terre Haute, Indiana
*"Son James Mast graduated IUSD
1959—office 2250 Wabash Ave-
nue, Terre Haute"*
- Dr. Russell F. Moorman
Deceased

Dr. Charles W. Newman
1481 West 10th Street
Indianapolis, Indiana

*Dr. Warren B. Purkey
South Whitley, Indiana

*Dr. Robert H. Ried
5895 S. W. 32nd
Miami, Florida

Dr. M. H. Rogers
10465 Carnegie Avenue
Cleveland, Ohio

Dr. William W. Row
Deceased

*Dr. Oscar R. Rutledge
213 Merchants National Bank Bldg.
Terre Haute, Indiana

Dr. Jack B. Schulte
112 West Adams Street
Havana, Illinois

*Dr. Kenneth D. Schuyler
Telephone Bldg.
Attica, Indiana

Dr. Charles A. Seal
Deceased

Dr. Clifford E. Simon
1221½ East Washington
Fort Wayne, Indiana

Dr. William T. Smith
5305 Hohman Ave.
Hammond, Indiana

Dr. P. E. Staley
Citizens National Bank Bldg.
Bedford, Indiana

Dr. Russell Stephens
Deceased

*Dr. Harvey W. Swisher
11420 Lorain Ave.
Cleveland, Ohio

Dr. Clarence A. Thompson
Deceased

Dr. Ned Leroy Thompson
Deceased

Dr. Clyde F. Thornburg
R. R. 1
Redkey, Indiana
"Retired"

*Dr. James L. Tilton
518 5th Avenue
Columbus, Indiana

Dr. Paul F. Tiece
Deceased

Dr. Scott S. Trimble
313 North Harrison Street
Alexandria, Indiana

Dr. Kesler E. Truelove
860 Broadway
Gary, Indiana

Dr. William F. Ulmer
Deceased

Dr. Harold W. Watts
23 North Jefferson Street
Knightstown, Indiana

Dr. Kenneth P. Watts
219 West Main Street
Greenfield, Indiana

Dr. Albert M. White
121½ East Broadway
Shelbyville, Indiana

Dr. Arthur F. Witte
R. R. 10, Box 395
Indianapolis, Indiana

"Retired due to an eye disability"

It has been such a pleasure to welcome the following alumni who have visited the school in recent months and placed their signatures in our guest book:

Dr. I. L. Rosen, 7828 St. Clair Street, Cleveland, Ohio (Class of 1935).

Dr. M. T. Barco, Winamac, Indiana (Class of 1940).

Dr. A. K. Bush, 201 Attica, Rossville, Illinois (Class of 1942).

Dr. Lowell Renshaw, 6225 Broadway, Indianapolis (Class of 1944).

Dr. James Rickets, 2108 W. Sycamore, Kokomo, Indiana (Class of 1945).

Dr. J. M. Stenger, 2217 Lincolnway West, South Bend, Indiana (Class of 1945).

Dr. Eugene R. Kipple, 1915 Franklin, Terre Haute, Indiana (Class of 1946).

Dr. E. R. Harrison, 2018 Westview Drive, Owensboro, Kentucky (Class of 1950).

Dr. Harry Johnson, 15 Grant Oak Lane, Pleasantville, New York (Class of 1950).

(Continued on page 33)

Class and Fraternity Notes

FRESHMAN CLASS

Just before Christmas vacation the Freshman class enjoyed a dance which proved to be a great success. At the end of the first semester the class relaxed with a stag before starting the second half.

In the campus basketball tournament the Freshman Dental class came out at the top. We are all very proud of this achievement.

To complete the year the class had another stag to celebrate the end of finals.

Sam W. Heltzel, Secretary-Treasurer

SOPHOMORE CLASS

"The more you know, the more you know you ought to know," an axiom recalled by a faculty member early in the second semester, is one undoubtedly agreed upon by the retiring sophomores.

It's been a busy year. All were glad to see the first part of National Board Examinations come and go—mostly go. And at the close of a school year which was metered not in terms of weeks or months, rather in terms of technics to be done and exams to be taken, the harried sophomore hurries to be a junior. Most, having had their first patient, are anxious, no doubt, to apply other technics learned in the laboratory to "live types" in the clinic.

A dance was held in May at the Wayne Post Legion Hall; a short spurt of golfing and occasional stags were had, but social activities as a group were minimized for reasons mentioned above. Cooperation and interest in class business functions, and projects have made these endeavors run smoothly.

The survivors are looking forward to clinical years.

Dick Rollins

ALPHA OMEGA

This last year is best typified as one of change for the Alpha Gamma chapter of Alpha Omega Fraternity. The graduation of our seniors in 1959 left us as a group comprised solely of undergraduates up to the junior level. Thanks to the efforts of our Indianapolis alumni, however, our members did not want for the voices of experience that usually come from sympathetic seniors.

Our ranks have grown this year with the initiation and pledging of five new members, who by the way have made a sizable dent for Alpha Omega on the freshmen Dean's list. New fraters and pledges are: Stephen K. Bailie; Harold E. Hamburg and William H. Rosenstein; pledged are Joel S. Engel and Franklin I. Miroff.

The election of new officers this May has put Alpha Omega in the hands of what we hope shall be inspired leadership for the next year. Myron Kasle, junior, is our new secretary and Stephen Bailie, sophomore, our treasurer.

The highlight of our social affairs was the annual AO conclave held at the Broadmoor Country Club, where we were privileged to have our distinguished alumni and friends as guests; among them our Dean and Mrs. Hine; Dr. James Jones, president of the Indiana State Dental Association; and Dr. John Geller, recipient of the Alpha Omega Distinguished Service award.

The undergraduate technic laboratory has finally crystallized with the acquisition of ample facilities and equipment for the use of the members in the coming year.

With the enlargement of the chapter membership, Alpha Omega will again pick up the steam of our rapidly expanding alma mater in 1961 and broaden the scope of our activities so long hampered by the size of our roster.

All of us wish to thank our outgoing officers for the really fine job they did last year, and we wish to express special thanks to our tireless president ex-officio, Bernard Newbauer.

Michael Jonathan Gross, President

DELTA SIGMA DELTA

The 1959-1960 page was opened with a "Back to School Ball" at the Old Plantation prior to the starting of classes and the page was completely filled by the time we wrote the last sentence regarding the final meeting when the seniors traditionally burned their names into the fraternity doors.

Many important and memorable events were recorded between these sentences. During the first semester, our rush program was completely successful and yielded twenty-three pledges that were initiated during the second semester. There were meetings, two per month, with a point toward business, recreation and education. The meeting programs generally included a guest speaker on topics ranging from Astronomy to "Successful Dentistry in a Small Indiana Town."

Membership parties provided an opportunity for members to gather in a relaxed atmosphere and discuss many subjects as they enjoyed the food ranging from hot dogs to charcoaled steaks.

The wives and sweethearts were not excluded from our functions but became an integral part of them. They accompanied us to a stew party,

(Continued on page 36)

Who's Who and Where ???

WELL, SO many nice comments about our column have been mentioned that you will recognize us by our big heads and the fact that we're the only writers frequenting cloud No. 9. Thanks for the bouquets . . . keep reading and we'll keep writing!

One fellow we are proud to know and have in our profession is ROBERT M. RICKETTS who graduated in '45, and, after a two-year hitch in the Navy, attended graduate school at the Univ. of Ill., and started research in cephalometric laminagraphy of the temporomandibular joint which continues to the present time. Received his masters in '50. Was runnerup in the Annual Essay Contest in '50 and won in '52. Also, in '50, Bob was smart enough to marry a charming American Airline hostess (bachelors take note!) and this union brought about two cute little gals and a bouncing boy. Bob and Pat reside in Pacific Palisades just above Sunset Blvd. If we all play our cards right, we might get an invite for a short snort when we attend that wonderful income tax deduction convention in October. Meanwhile, watch for publications from this learned fellow, as he has, plus his busy orthodontic practice, the title of Asst. Prof. of Pediatrics at UCLA School of Medicine, Advisor to Veteran's Admin. and Consultant for cleft palate deformities at Children's Hospital at L. A. All this and we never thought he'd make it through school! See the picture of this ex-farm boy and family at right.

Even though he lives way up in Gary, SAMUEL B. DAUBENHEYER follows Indiana's athletic teams. Since he and wife, Sue, have two little ones, James, age 6, and David, age 4, doubt if Sam finds much time for his hobbies of golf

by Richard E. Jennings, D.D.S.

and bowling. He was president for the 1938 class and is presently conducting a general practice. Holds memberships in the Masonic Lodge, Chamber of Commerce, and the Gary Country Club. On Sundays they attend the Presbyterian Church.

Ahah, a bachelor in our midst! How did he ever manage to escape, though by judging by his address . . . I wonder if it is worth it. MARVIN E. BEALL, who was Sec.-Treas. of the 1944 class, now has a part-time orthodontia practice in Ketchikan, Alaska. Didn't say what he does the rest of the time . . . chasing wild, wild women or mining gold . . . your guess is as good as ours. Says he belongs to the Elks (apparro?) and goes to the Methodist Church.



Bob Ricketts and Family

The smiling people below are RUSSELL W. POWERS and his charming wife, Eva, and their children, Janet and William. Russ was vice-president of the '28 class and now lives and practices in Lyons, Indiana. He is the contributing editor and past president of the Greene County Dental Society and is active in the Masons and Elks. Son William is following in his father's footsteps and is a pre-dental student at Indiana University.



Powers Family

Remember HARVEY G. THOMAS, the fellow you trusted with your money in the class of '52? After studying the Bosworth Post Graduate Denture Course, and a postgrad. course in oral surgery, and Bosworth Practice Management, Harvey went to Muncie to a general practice. He married a pretty gal named Pennie and they are the proud parents of little Susan. (See the family "living it up" in picture!) Harvey is active in the Family Service Bureau, Masons, Consistory, Shrine, and President of the Paramount Club. Also works in the Muncie C. of C., the Fraternal Order of Police, and the Omega Psi Phi Frat. Besides YMCA and other organizations working for and with children, Harvey tries to find time for golf, fishing, and relaxing sports.

A man who is mighty busy working on his M.S.D. is CARL R. KOHLMANN who was president of the 1948 class. He is now conducting a general practice in Indianapolis. Carl and his wife, Mary, have two boys and one girl. He is on

the Bishop's committee at St. Timothy's Episcopal Church and is in the Indianapolis District Dental Society, Phi Delta Theta fraternity, Scottish Rite, and the F. and A. M. No. 270.

Down in Sullivan, Indiana, there is the ex-president of the 1927 class, AVON B. LIBKE. His practice is limited to extractions and prosthetics and when he isn't busy hunting and fishing, he may be busy at the American Legion, Rotary Club, Masonic Lodge, or BPOE. He and Josephine are Presbyterians and have three sons who have reached the ripe ages of 31, 24, and 21 years. Where does time go?

If you need a good nurse you might look up RAYMON T. ALLISON who was president in 1932. His two daughters, Marilyn and Eleanor, are graduates of Ohio State Univ. School of Nursing, so he should have some influence. Ray golfs in the high 70's and low 80's, does a little deer, quail, coon, and pheasant hunting, and then fishes a couple of weeks in Canada and Florida each year. Didn't say if his wife, Evelyn, enjoyed these hobbies with him. At home he has worked in all bodies of York and Scottish Rite, Masonry, and Shrine. Also active in the Elks and local dental organizations. Bet you wondered where



Harvey Thomas and Family

this boy moved? . . . well, Ray lives and practices in Gallipolis, Ohio.

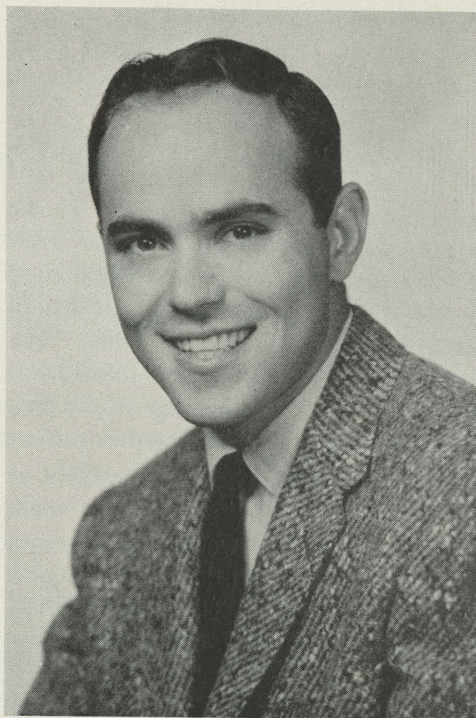
Hurrah, another boy to look up when we all go to L. A. this fall! HOWARD M. STEIN, who was V.P. of the class of 1950, lives there now with his wife, Adelaide. He hasn't had time to get busy in the community or church yet but suspect we'll be hearing more about him later.

A boy who is making friends out West, yet still coming home to Indiana first minute he gets out of the service in June, is DONALD L. BURNS, who in '57 was Vice-President. He and Barbara have their children, Brenda, Bruce, Brent, and Chris (how did that C get in there?) out in Denver, Colorado at Lowry AFB. Don keeps real busy with Uncle Sam but, in his spare moments, teaches dental assistants at Emily Griffith Opportunity School and also took a short course in Oral Surgery in the Air Force. We'll be glad to see him back again.

If you're ever in a jam . . . call a ham! or words to that effect. EDWARD E. BOSH, President of 1949, has amateur radio listed as one of his hobbies along with fishing, hunting, and photography. He and Wilma live in Logansport. Ed has been real active in the Cass County and Wabash Valley Dental Societies.

A fellow with his head in the clouds at least a part of the time is JOHN H. BUSHONG, Vice-President in 1951. John's hobby is aviation and he holds commercial license in single and multi-engines . . . land and seaplanes, plus an instructor's license. Enjoys giving flight instruction in his spare time. Is active in the First Christian Church and the Ben-Hur Dental Society up in Crawfordsville.

This handsome fellow is JERRY GOLDSMITH who just graduated last year. The class liked him well enough to elect him Vice-President, so the dental society in Indianapolis better keep an eye on him. Sounds like a working member, maybe?



Jerry Goldsmith

Has an office in West Indianapolis.

J. W. MITCHELL, class of '45, missed the reunion this year but sent a newsy letter telling of his whereabouts. He has rejoined the Navy, this time for good, is recently completing two years duty aboard an aircraft carrier. He has been to the Caribbean, most of the Mediterranean ports, and expects to see Nova Scotia shortly. Wife, Maxine, and Alan, now 13, and Francine, 10, seem to like moving every year so when you see the Mitchells, be sure to ask "What's new?" as they should have lots to tell.

Ever think about doing your Christian duty far and above the usual tasks? PHILIP M. WHISLER, who was the Treasurer in '48, spent 15 months on the Navajo Indian Reservation under the Presbyterian National Missions Board. Phil and his family grew to like warm weather so after three and one-half years in the Navy, they all went to Largo, Florida, to live. This climate gives them more opportunity for their hobbies of golf and

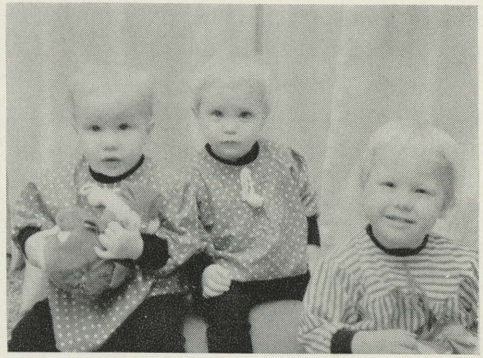
swimming. Phil and Geraldine work in the Skycrest Methodist Church there with their two children, Michael Duane and Barton Ross.

JOHN L. TURCHI, who held the office of President of the class of 1958, has been known in Crawfordsville as the dentist with the beard. Seems he grew it for a centenial and looked soooo good in it! Rosemary has given up school teaching to concentrate on being "mama" to little Kenneth Lee. John has a general practice and belongs to the Jaycees and Lions Club in Crawfordsville.

Did you envy the ski jumpers at Squaw Valley last winter . . . or were you sitting in the warm living room watching (on TV) all those athletic people like we were? B. G. TEMPLE, Vice-President of the 1947 class, does more than just watch. We hear that he is quite an expert skier and tries to work in a winter vacation in Michigan every year. He and Jo have three children and what with being deacon in the church, golf, quail hunting, Elks, Chamber of Commerce, Bill tries to find time for a few patients in New Albany.

A new member on the staff at Indiana D. S. is PAUL STARKEY, who was President of the 1943 class. He and his lovely wife, Arlene, have four children and although Paul only lists hunting, fishing, and photography as his hobbies, our spies have seen him and his family frequently swimming in the pools of RALPH McDONALD and JIM MATLOCK. Paul left a pool in his home at Miamisburg, Ohio, to come here so he must love us! He and Arlene are working hard to start a new church in their neighborhood.

DONALD E. SPEES, who in 1954 was President, has kept busy as a general practioner in Zionsville and spent a year in Crown and Bridge as a student and then five years as clinical instructor. He and Jerrie have four boys . . . including twins a year old. Donald is active in



Robinson Children

the American Legion, Lions Club, and Methodist Church.

Check the tow-heads in the above picture! Maybe we should start a dental twin club for GEORGE ROBINSON, Treasurer of the 1956 class has two year old twins plus Lisa, who is three. All the children were born on the island of Guam while George and Dorothy were there during their Navy stint. They now all live in Bedford, Indiana, where George keeps busy with hobbies of tennis, hunting, fishing, pistol shooting, photography, and traveling. He visited KARL GLANDER of 1956 in Redbank, New Jersey, this September while attending the ADA Centennial. Karl is associating with the President of New Jersey Board of Examiners and is learning general anesthesia.

If anyone finds a rare American antique gun . . . call JAMES F. SIMMONDS, who was Treasurer of the 1950 class. He and Toni have two children and live in Anderson, Indiana. Jim is the dental officer for the National Guard and is active in the American Legion, First Methodist Episcopal Church, Wabash Valley Gun Collectors Club, ADA, East Central and Madison County Dental Societies. Jim reports on JIM ROLL and BOB YOU-MANS, who are both Majors in the army dental corps and are oral surgeons at Walter Reed. (Bob took the tooth out for Ike last year so he will either be a light colonel or sgt. soon.) Both fellers

promise to bring their families and attend the reunion next year barring anything short of a national emergency . . . horrible thought!

My, but JACK DAVID SINGER is short on information! The most we could find out since he quit his job as President of the 1947 class, is that he is practicing general dentistry in Dearborn, Michigan, and he and Beverley have two girls, Karen and Lori Ellen.

Thinking about investing extra cash? BAILEY D. HINTON, JR. is continuing his interests of money since being the Treasurer in 1954, as he is now Chairman of the Alhambra Investment Club. Bailey lives in Coral Gables, Florida, with Lillie Maxine and their two children. They are active in the Episcopal Church and he belongs to the Miami Dental Society.

Sudden thought . . . In order to combat the proponents of socialized health services we must each one be goodwill ambassadors for our chosen profession. What are YOU doing to help? See you next issue.

HONOR DAY

(Continued from page 12)

2nd—Earl R. Ley

3rd—Richard W. Henry

honorable mention—Richard Elzay

Omicron Kappa Upsilon (national dental honor society) memberships:

Richard P. Elzay

William R. Gordon

Richard W. Henry

Harvey G. Levinson

William D. Leyda

Leroy F. Kochert

Monte E. O'Conner

William L. Potucek

Sigma Phi Alpha, Theta Chapter (dental hygiene honorary society):

Norma Laviola

Roberta Polson

Indiana State Dental Laboratory Association, awards for:

complete denture—William H. Dudley

partial denture—Warren B. Davis
crown and bridge—Richard Elzay

Robert A. Botkin Memorial Award:

Danny Olson

Ert J. Rogers Memorial Award:

Richard W. Henry

Interfraternity Council, scholarship, plaque:

1st—Psi Omega

2nd—Delta Sigma Delta

American Academy of Periodontology:

Don Nesler

American Academy of Oral Roentgenology:

Phillip O'Shaughnessy

Alpha Omega (national chapter) award for outstanding scholastic record:

Richard W. Henry

American College of Dentists, award to student showing greatest improvement since freshman year:

Ray Maesaka

Sophomore with outstanding record in freshman year:

William Schultz

Indiana Society of Oral Surgeons:

Ralph Adams

American Academy of Dental Medicine:

James O. Hennigar

American Academy of Gold Foil:

Richard W. Henry

Indiana State Dental Hygienists' Association (proficiency in clinical practice during senior year):

Marilyn Lorenz

American Society of Dentistry for Children:

Warren B. Davis

ALUMNI NOTES

(Continued from page 21)

Dr. Robert C. Johns, 606 Eley Road, Ben's Lake, Eglin AFB, Florida (Class of 1954).

Dr. S. Wallace Bell, Bedford, Indiana (Class of 1955).

Drs. Ursula and Werner Bleifuss, 18786 San Quentin Avenue, Lathrop Village, Michigan (Class of 1955).

Dr. Charles D. Hall, 299 Alhambra Circle, Coral Gables, Florida (Class of 1955).

Dr. Arthur Karpinski, 10 S. Marine Avenue, Auburn, New York (Class of 1955).

Dr. William Marshall, 2300 Kenton Street, Denver, Colorado (Class of 1955).

Dr. M. G. Stevens, 2540 National Road, Columbus, Indiana (Class of 1955).

Dr. J. Paul Bunch, Springfield, Missouri (Class of 1956).

Dr. William S. Mull, Newport, Rhode Island (Class of 1959)—Is a lieutenant in the Navy; he will be going to sea soon, and will be stationed on the good USS Cascade.

Dr. Chris Nikias, 424 East 72nd Street, New York, New York (Class of 1959).

Dr. George Stratigos, Lincoln Hospital, 320 Concord Avenue, New York, New York (Class of 1959).

It is such a joy to greet you people; we wish more of you would come to visit us and say "hello" and sign our "Guest Book." Why don't you come next fall when we hope the addition to our building will be completed?

PARTIAL DENTURE

(Continued from page 4)

The preparation of this mouth changed it from a Class II, Modification III, to a Class II, Modification I, resulting in a much less complicated design and greater stability of the abutments.

In summary, mouth preparation includes all operations which re-establish or maintain the health of the abutments, supporting structures, and ridge tissues, and make possible a more simple design for the prosthesis.

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Schuyler, C. H.: An evaluation of incisal guidance and its influence on restorative dentistry. J. Pros. Den. 9:374-378, May-June 1959.

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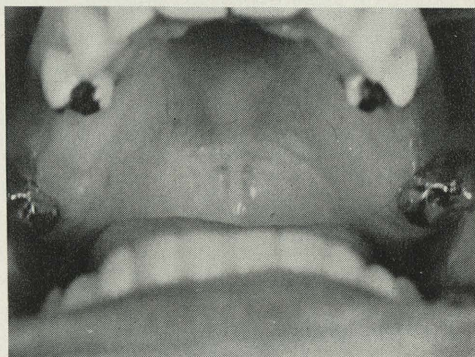


Figure 5

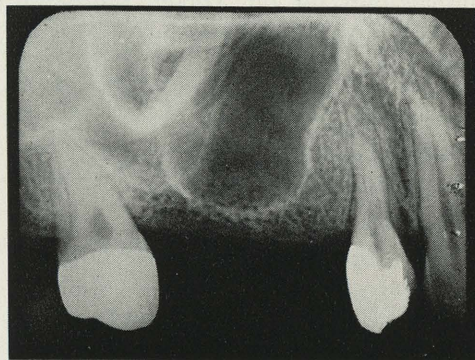


Figure 6

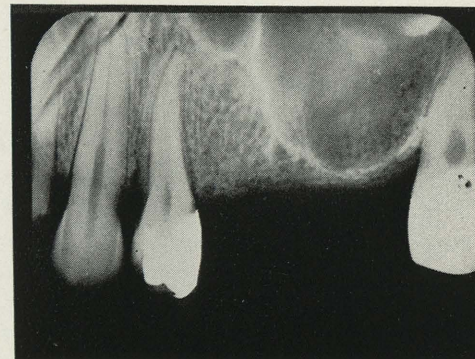


Figure 7

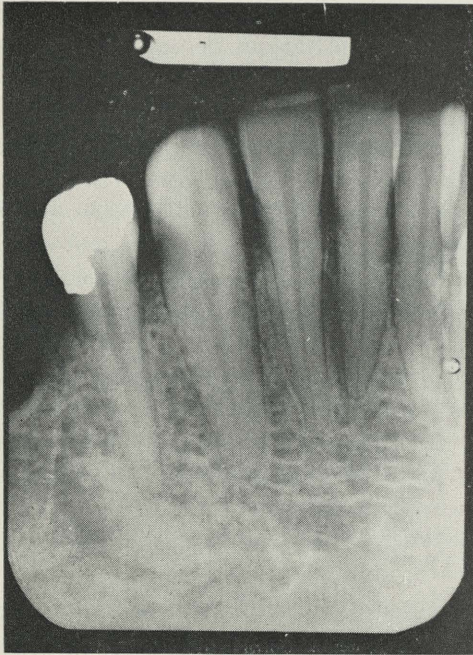


Figure 8

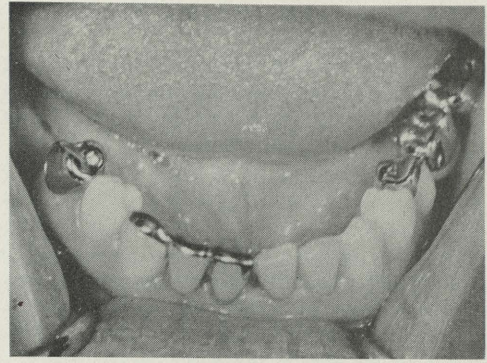


Figure 10

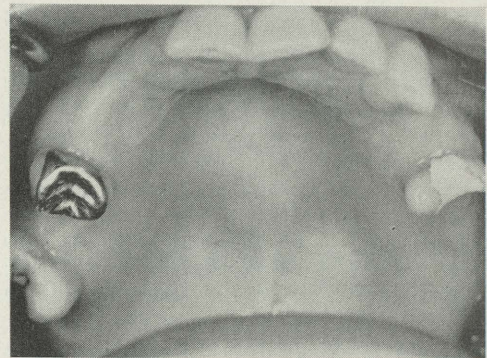


Figure 11

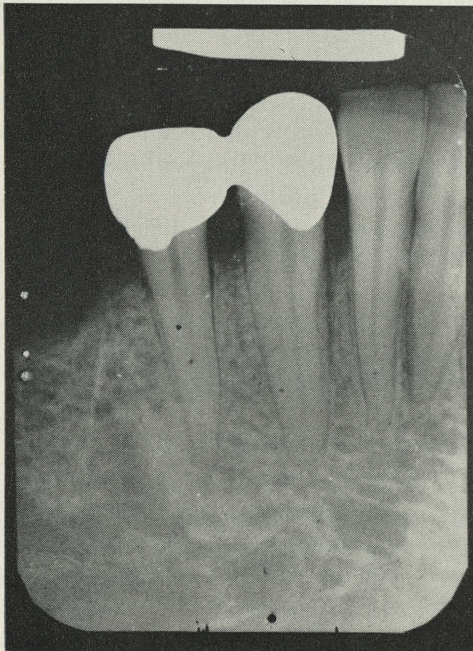


Figure 9

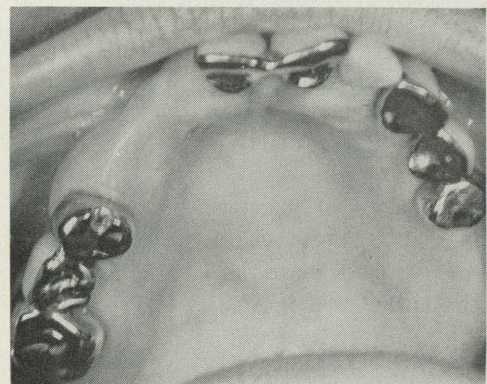


Figure 12

CLASS AND FRATERNITY NOTES

(Continued from page 28)

chicken dinner and dance, and they sponsored a Las Vegas Casino night that was so successful that next year's plans include a doubling of facilities for this annual affair.

The Delt wives also enjoyed an extremely enjoyable and successful year with such activities as the above mentioned casino, bridge lessons, bowling party and their senior banquet at the Iron Skillet. The girls' activity was not all play but also incorporated assisting in clean-up, decorating, and providing food and hors d'oeuvres for each of the seven official dances.

The dance list was completed with a dance based on a Hawaiian theme and was enjoyed by alumni, members and guests. Many called it the best yet, but we know that all of the activities of Delta Sigma Delta are always pointed toward bigger and better things in the future.

Bob Ricci, President

SIGMA PHI ALPHA—Theta Chapter

The first annual meeting of the Theta Chapter of Sigma Phi Alpha was held Sunday, May 15, 1960. There were seven members present.

The president, Anne Ackerman, called the meeting to order. The delegate's report from the second annual meeting of the Supreme Chapter held in Chicago, March 21, 1960, was read.

Rebekah Fisk gave the treasurer's report, and explained what was being done with the dues, and why it was decided to keep them to the minimum.

The constitution was then read and approved. The election of officers followed:

President, Pauline Revers.

President-elect, Ann Spedding.

Vice-President, Anne Ackerman.

Secretary-Treasurer, Marilyn Smith.

DENTAL HYGIENE

(Continued from page 16)

field of practice. It is hoped that the new building will be completed and ready for your inspection. Cross these days off on your appointment book and plan to be present. At a later date you will receive more specific information about the program.

DEAN HINE

(Continued from page 14)

and the staffs or consultants of both are on the dental school faculty or cooperate closely with the dental school staff. Since hospital dentistry will undoubtedly be-

come more and more important in the future these various dental clinics form an important part of our teaching program.

Tentative plans for postgraduate courses to be offered at Indiana University School of Dentistry in 1960-61 are as follows:

November 7 to 10—Pedodontics

November 15 to 17—Periodontics
(with a symposium to which everyone is invited on November 16)

March 15, 16, 1961—Course for Dental Hygienists and Dental Technicians

April 19—Symposium on Preventive Dentistry

June—A course in Complete Denture Construction

Detailed information regarding these courses will be available soon. Anyone interested may write in to the Dean's Office for further information.

We have just been informed that it will be possible to start installing equipment in the basement and first two floors of our dental school addition on July 15. This means that it is probable that these areas can be used for teaching when classes begin on September 19. Doubtless the rest of the building will be available for teaching purposes before Christmas, unless some unforeseen difficulties arise. Plans for a dedication program for this addition will be announced when completed, and everyone will be urged to attend.

LIBRARY

(Continued from page 20)

trol and experimental groups. They were maintained for the following four weeks on synthetic diets in which the only difference was normal or low levels of calcium respectively. At the end of the second dietary period, the animals were sacrificed and their periodontal and osseous tissues were studied. The following conclusions were drawn from the experiment:

1. A calcium deficient state was invoked in the experimental animals as indicated by a negative calcium balance and low calcium levels in the femur carcasses.

2. A reduction in the number of bony trabeculae of the metaphyses of the femurs in the experimental group indicated osteoporosis and/or poor mineralization due to the deficiency.

3. Changes in the marrow spaces such as hemorrhage, osteoid production on bone margins, and increased osteoclastic activity were not observed in the jaws of the experimental animals.

4. There was no significant difference in either the severity or incidence of periodontal disease in the two groups.

5. This research does not establish any specific protective action of calcium against periodontal disease in the hamster. It would be well to repeat the study, in an effort to increase the degree of deficiency and in the presence of more periodontal disease in the animals.

Post-Graduate Courses Offered

November 7-10—Course in Pedodontics

November 15-17—Course in Periodontics

—Dr. Swenson

November 16—Symposium on Periodontics

February 22, 1961—Symposium featuring foreign graduate students

March, 1961—Special course for orthodontists

March 15-16, 1961—Course for Dental Hygienists

March 15, 1961—Symposium for Dental Technicians (M. S. Moskey and Russell Jones—Guest speakers)

April 19, 1961—Symposium on Dentistry for the Adolescent (Dr. Cosmo Castaldi—Guest speaker)

June 14-21-28,

July 5-12, 1961 — Course in Complete Denture Construction

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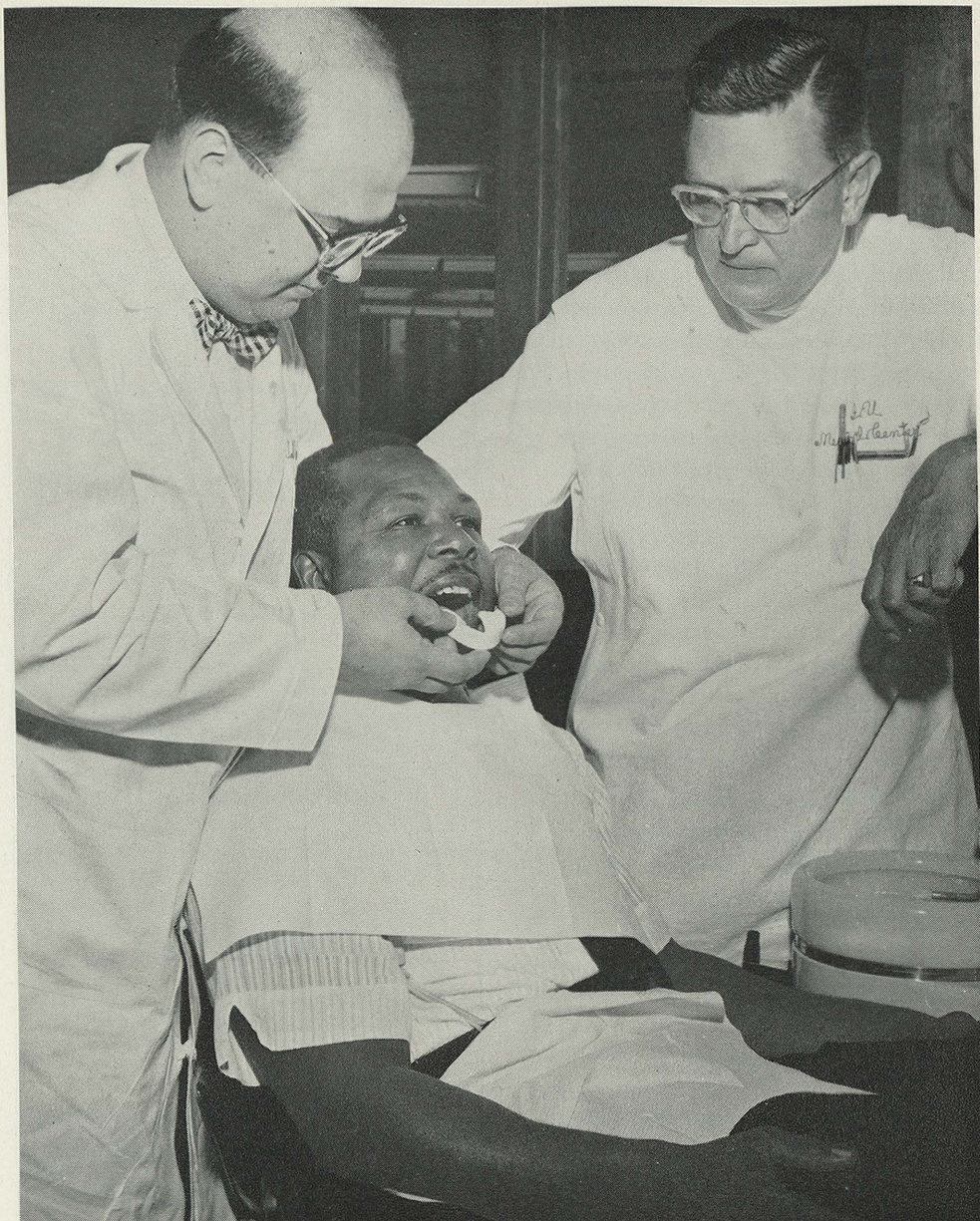
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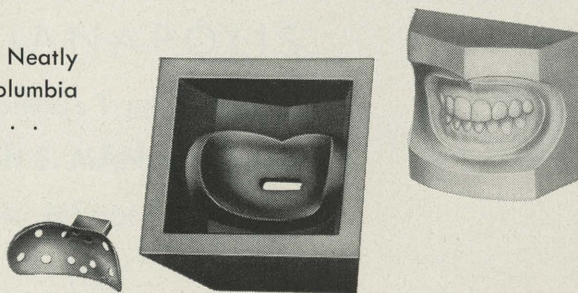
A recent visitor at the dental school was Archie Moore, light heavyweight champion of the world. Two mouthpieces were made through the courtesy of the Alumni Association. Drs. Moon and Hohlt are shown inserting the final mouthpiece. The life of such a mouthpiece is estimated to be five years.



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