Alumni Bulletin

INDIANA UNIVERSITY SCHOOL OF DENTISTRY

AUGUST, 1954
INDIANAPOLIS, INDIANA

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Contents

R. W. PHILLIPS — EDITOR
RUHAMAH HANNAH — ASSISTANT EDITOR

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

A Dental Program for the Undergraduate Student in a University Children's Hospital

C. R. Castaldi, Instructor in Pedodontics

Statistics are not available for the exact numbers of handicapped children in the United States. However, estimates recently received from the Children's Bureau of the Department of Health, Education, and Welfare of the Federal Government reveal that not only are there large numbers of these children in the country, but that the numbers are increasing in proportion with the increase in the child population.

The major types of handicap and the estimated numbers of children in the United States under 21 years of age afflicted with the various conditions are as follows:

Cardiac (Rheumtaic fever and congenital heart disease)	725,000
Cerebral Palsy	285,000
Epilepsy	275,000
Cleft Lip and Cleft Palate	75,000
Visual Handicap (Marked)	60,000
Hearing Loss	350,000
Speech Handicap	270,000
Orthopedic	1,000,000
Blood Dyscrasias	No figures available

Needless to say these children do not escape the usual dental problems experienced by the so-called well children in the population. In fact, in many cases the dental defects may be accentuated by the handicapped condition, thus rendering the problem of treatment more difficult. To gain experience in dealing with the dental problems of the many of these children, specialized training at the graduate or post-graduate level is usually required.

It would be well if all of these children could benefit from the care of the dental specialist, but unfortunately this is not always possible. The number of specialists is highly inadequtae to cope with the problem, and while the specialist will usually locate in one of the larger cities the handicapped children are found equally distributed throughout the urban and rural areas of the country.

In addition to the foregoing, we must squarely face the fact that modern medicine and surgery are prolonging the lives of large numbers of these handicapped children, many of whom lived comparatively short lives prior to the advent of the so-called wonder drugs and the development of new surgical techniques.

Insufficient Number of Specialists

Since the various reasons the services of the specialist are not always available, the general practitioner is being called upon more and more to provide all or at least part of the dental service for some of these handicapped children. Lack of any formal training in dealing with the problem places him at a distinct disadvantage. Many times even the most capable of practitioners will hesitate to carry out necessary restorative treatment for a child with a history of rheumatic fever or congenital heart disease, for fear that the treatment may excite the child and prove to be detrimental to the child's already abnormal physical condition.

Not infrequently only cautious palliative treatment is performed for a child who is quite capable of withstanding the routine procedures used for the well child. That this sometimes leads to a more complicated dental problem which in itself

may actually prove to be harmful to the child's condition is quite obvious.

With a few exceptions the dental procedures used for the handicapped child are identical with those carried out for a well child. The main point of difference lies in the limitations of treatment for each individual child. The teaching program at the Indiana University School of Dentistry which introduces the undergraduate student to dental treatment for handicapped children has this as its theme.

Riley Hospital Clinic

The dental school is indeed fortunate in that the James Whitcomb Riley Memorial Children's Hospital, in which this teaching program is being carried out, is situated within a few minutes walking distance from the dental school. Both are part of the Indiana University Medical Center in Indianapolis. Riley Hospital has a large out-patient service as well as an in-patient service; consequently with this volume of patients being seen, good teaching material is readly available. The hospital dental clinic is a part of the pedodontia department of the dental school. It is supervisd by a full-time member of the pedodontic department, who is responsible to the chairman of the department. Both instructors have taken part of their pedodontic training in children's hospitals.

The physical plant of the clinic closely resembles a private practice dental office, having a waiting room, business office, three operating rooms, dark room and laboratory. The clinic is operated on a full-time basis to provide dental service for both out-patients and in-patients. Only handicapped children qualify for treatment. This treatment is carried out by a graduate student in pedodontics, a dental intern, the supervisor of the clinic and also the chairman of the pedodontic department. Several practicing dentists also assist in the program on a part-time basis.

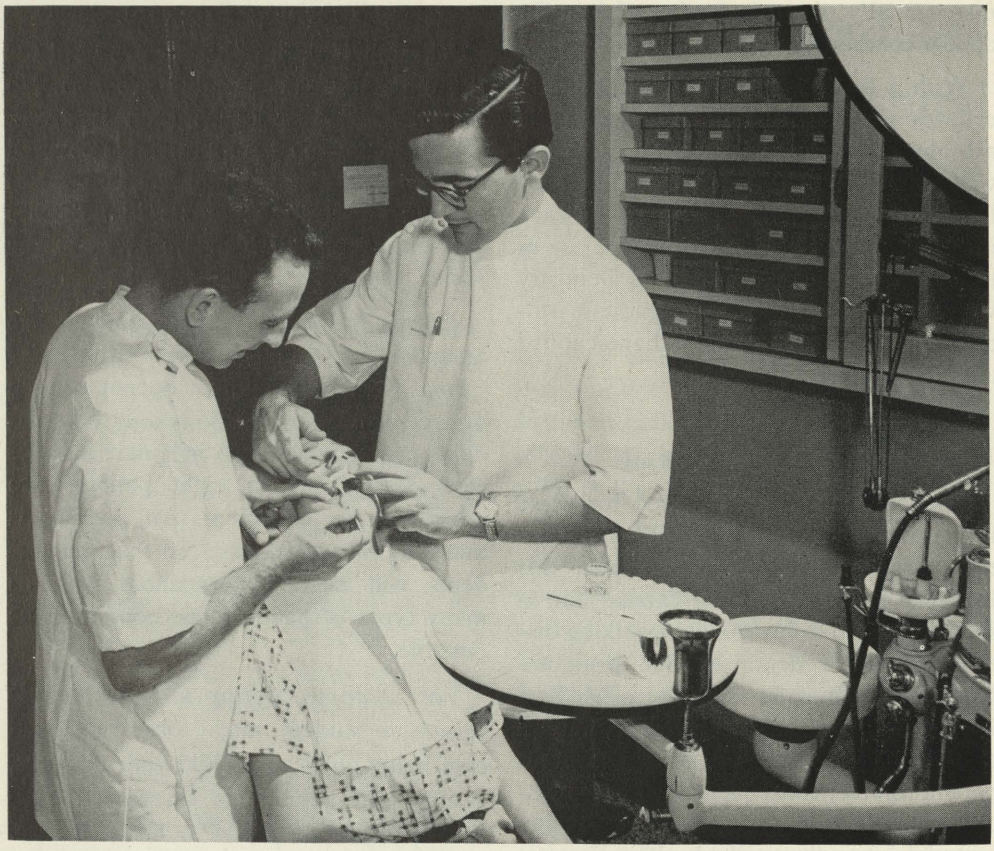
Teaching Program

Three half days per week are used for the undergraduate teaching program. No formal lecture series as such is given. However, much of the material is covered in the regular pedodontic lecture courses and also in lecture courses in medicine and oral surgery which are given in the junior year.

During the senior year all students are assigned for two half day periods at Riley Clinic. So that maximum benefit can be derived from these sessions only two students are assigned each half day, and for each session six to eight patients are scheduled for treatment. An attempt is made to vary these cases so that the students will become acquainted with as many types of handicapped conditions as possible.

For example, during a typical clinic session a student might observe dental care being given to a child with diabetes, another with hemaphilia, several with cerebral palsy, cleft palate or heart disease.

During their first assignment the students are given a brief talk to acquaint them with the problem of dental care for handicapped children with special reference to the role the general practitioner can play in providing some of this care. Following this talk, treatment is carried out on two patients by members of the clinic staff operating simultaneously in adjoining rooms with the students acting as assistants. Either before or during the treatment a review of the patient's medical history is given. The histories are well known to the instructors since all of the children have been seen previously as either out-patients or in-patients. However, in order to clarify certain aspects of previous medical treatment and also to acquaint the students with charting procedures the hospital and out-patient medical records are requisitioned from the rec-



Senior dental students giving fluoride treatment to child with hemaphilia.

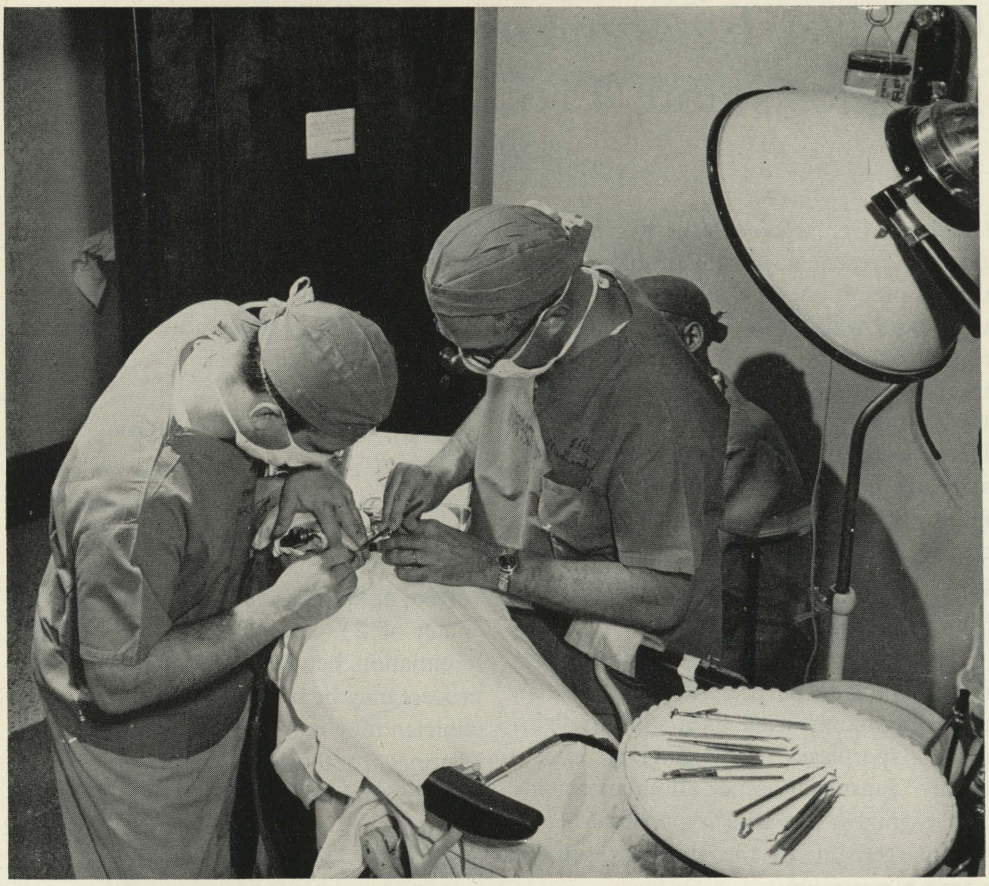
ord room for each child on the day of the dental appointment.

After various aspects of the medical treatment have been discussed the child's dental needs are reviewed and the students are questioned concerning possible methods of management. As pointed out previously the staff carries out the treatment with the students acting as assistants.

From the teaching standpoint this, of course, has certain advantages and disadvantages. It appeared that the new surroundings and the fact that the students had had no previous contact with the patients contributed toward many undesirable situations, often upsetting both the student and child. The encounter, though brief, we believe in many instances was sufficient to discourage the student from ever attempting dental treatment for a handicapped child. Consequently, we believe that in our program, teaching by example is far more effective than having the student learn by doing. The students do, however, carry out the less difficult procedures, such as taking of impressions, giving prophylaxis, and fluoride treatments. During their second assigned sessions the students are encouraged to complete an operative procedure after the instructor has started the patient, or if they so desire, to do all of the treatment by themselves.

Caries Prevention Stressed

The importance of caries prevention is strongly emphasized. When a patient is taken on the clinic roles, a diet history is obtained for the purpose of evaluating the refined carboyhdrate intake. In accord-



Child with cerebral palsy under general anesthesia having dental treatment performed. Both surgery and restorative care is done in this manner. Students are able to observe and assist in these operations.

ance with the history, careful instruction regarding reduced sugar intake is given. Parents are taught how they are to assist the patients in tooth brushing, especially where a handicapped condition has affected the child's motor activity. Tooth brushes are available in the clinic and parents are requested to demonstrate to the staff that they can do an efficient job of removing food particles from their child's teeth.

Our results in caries prevention using these methods have convinced us that the time spent in parent and patient instruction is invaluable in reducing the clinic load. In the year and a half since this method has been instituted over eighty per cent of the patients on recall have had no new cavities. We believe that after a student has assisted in an operative procedure under local anesthesia on an almost uncontrollable child with cerebral palsy the importance of caries prevention has some meaning. Our own clinical records are used as evidence of positive results.

The undergraduate student also has the opportunity of observing or assisting in dental treatment, both operative and surgical, done under general anesthesia. Unmanageable children, for example with cerebral palsy or mental retardation, who have to be hospitalized, are scheduled for

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Gingival Enlargements—Etiology, Diagnosis and Treatment

William G. Shafer, Department of Oral Pathology

Gingival enlargements as a group frequently present a clinical problem to the dental practitioner because of the variety of factors which often underlie their initiation or act as predisposing elements in their pathogenesis. It is the purpose here to attempt to point out that *all* such enlargements, irrespective of local factors or systemic conditions, are etiologically related and that their treatment should be considered under a unified plan of approach modified only in specific cases as individual conditions might dictate.

The general term "gingival enlargement" is felt to be preferable rather than more commonly used ones such as "gingival hyperplasia" or "gingival hypertrophy" inasmuch as not all enlargements of the gingiva are true hyperplasias, and *no* enlargements of the gingiva represent a true hypertrophy.

Hypertrophy of any organ is defined as an increase in overall size due to an increase in the *size* of its individual constituent cells resulting, in nearly all cases, from a demand for increased function. Except in cases of malignant tumors of the gingiva, an increase in size of the cells making up this structure is not seen. Hyperplasia, on the other hand, refers to the enlargement of a part due to an increase in the *number* of cells. Gingival enlargement is not infrequently due to an increase in the number of cells present, but by no means invariably so. Simple enlargement, for example, can arise merely from vasodilation and the presence of edema fluid in the interstitial tissue with little or no increased cellularity.

As based on their etiology, all gingival enlargements appear as one of two types. Type I includes all enlargements which are purely local in origin, while type II embraces those enlargements which are local in origin, but complicated by one or more systemic factors.

Type I Enlargements

Type I enlargements, those which are purely local in origin, may be further subdivided, for simplification in understanding the basic pathologic phenomena involved, into those lesions which are: 1) acute; or 2) chronic in nature. The differentiation between an acute or chronic process may be made in several ways. The clinician may make the distinction by considering: 1) the duration of the process; 2) its course; and 3) the presence or absence of such signs and symptoms as pain, hyperemia, etc. On the other hand, the pathologist who never sees the patient must make his diagnosis purely on the basis of the microscopic section by the predominant type of cell present.

It is felt that all gingival enlargements which are purely local in origin have as their fundamental underlying pathologic process the phenomenon of inflammation. In essence, it is believed that all type I enlargements are inflammatory in nature with the etiologic agent being some type of chemical, bacterial, or physical factor.

It should be appreciated that the distribution of either an acute or chronic type I enlargement may be: 1) localized, affecting one gingival area; or 2) generalized, affecting many of all gingival areas. The type of irritating agent frequently will determine whether the process is of an acute or chronic nature and whether it is localized or generalized in distribution.

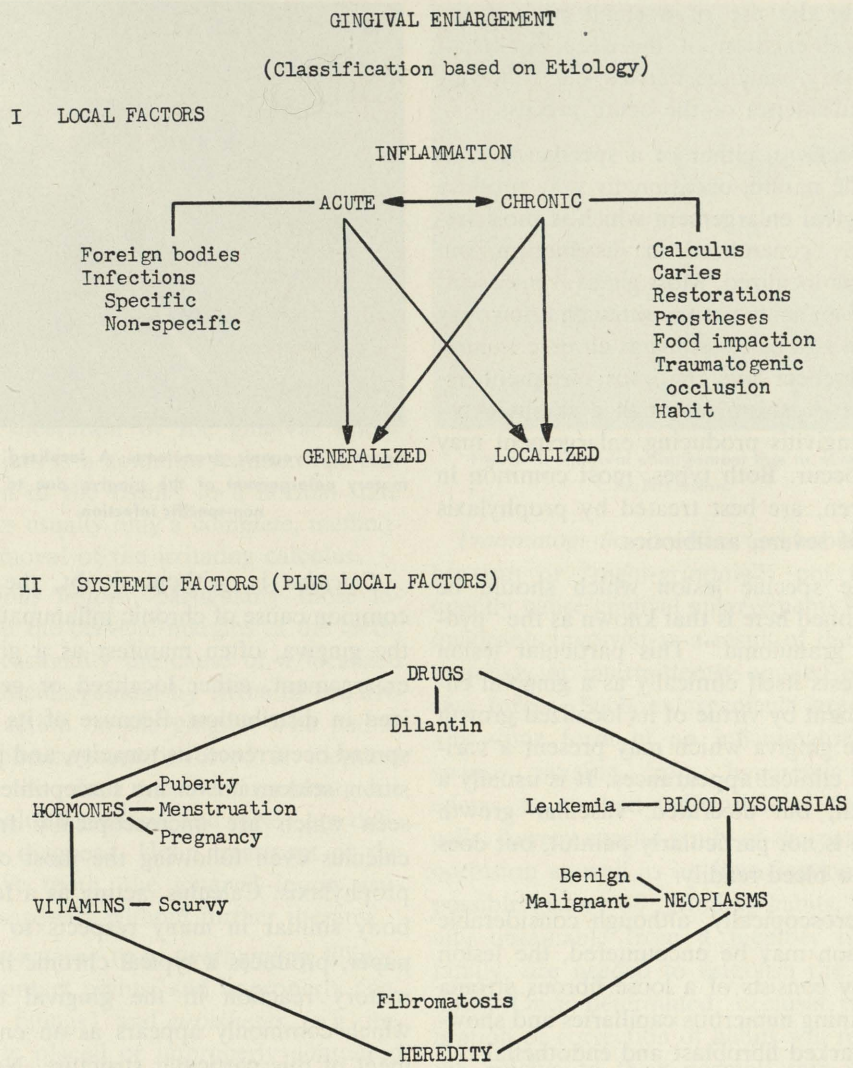

Figure 1.

The various types of interrelationships which can exist within the group of type I enlargements may be seen in figure 1, with the irritating agents most commonly associated also listed.

Foreign bodies most commonly give rise to acute inflammatory lesions which may be manifested as enlargements by virtue of the edema, vasodilatation, and inflammatory cell infiltration which results. These foreign bodies, such as popcorn husks, toothbrush bristles, fish bones, tooth pick splinters, etc., are usually localized to one specific area and usually present no problem in diagnosis because of the patient's history. Such foreign material, when situated deep in a periodontal pocket, produces all classical symptoms of a periodontal or lateral abscess including localized pain, swelling, redness and a feeling of tautness in the tissue. The treatment of this condition requires the removal of the foreign body and the establishment of drainage, occasionally neces-

sitating the use of a small wick drain. Surgical excision of the deep pocket, if necessary, may be carried out following the subsidence of the acute process.

Infections, either of a specific or non-specific nature, occasionally may produce a gingival enlargement which is most frequently generalized in distribution, but may be localized. Most gingival infections are of an acute nature although a few may persist and be classified as chronic lesions. Streptococci are the most frequent infective organism although a staphylococcal gingivitis producing enlargement may also occur. Both types, most common in children, are best treated by prophylaxis and, if severe, antibiotics.

One specific lesion which should be mentioned here is that known as the "pyogenic granuloma." This particular lesion manifests itself clinically as a gingival enlargement by virtue of its localized growth on the gingiva which may present a variety of clinical appearances. It is usually a smooth, but ulcerated, vascular growth which is not particularly painful, but does tend to bleed readily.

Microscopically, although considerable variation may be encountered, the lesion usually consists of a loose fibrous stroma containing numerous capillaries and showing marked fibroblast and endothelial cell proliferation. Inflammatory cell infiltration is also usually marked. The pyogenic granuloma is best treated by surgical excision. If excision is not complete, there may be recurrence.

At the present time, there is general agreement that the lesion is an inflammatory one in which this particular type of tissue response occurs as a result of invasion of the tissues by micro-organisms of low virulence. This invasion of organisms follows some minor trauma such as may result from chronic irritation due to any one of the number of local factors listed in figure 1.

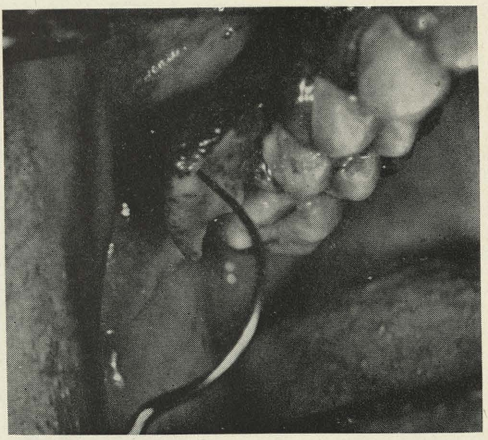

Figure 2. Pyogenic granuloma. A localized inflammatory enlargement of the gingiva due to a mild non-specific infection.

Calculus is, without doubt, the most common cause of chronic inflammation of the gingiva, often manifest as a gingival enlargement, either localized or generalized in distribution. Because of its widespread occurrence, its tenacity, and its position, seldom if ever are susceptible areas seen which are microscopically free of calculus even following the most careful prophylaxis. Calculus, acting as a foreign body similar in many respects to sandpaper, produces a typical chronic inflammatory reaction in the gingival tissues which commonly appears as an enlargement of this particular structure. No true

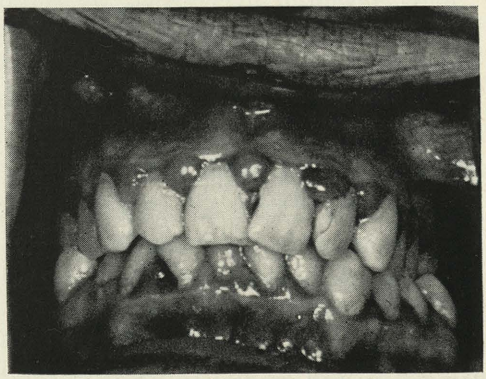

Figure 3. Gingival enlargement due to local irritation in the form of calculus enhanced by faulty proximal restorations.

hyperplasia is involved in this process, the enlargement being due primarily to the various inflammatory phenomena associated with such an irritating agent. Clinically, the enlargement appears as a boggy, edematous, inflamed gingiva which is, in most cases, completely asymptomatic although minor bleeding may be a cause for complaint. This latter finding, as well as the mild suppuration frequently accompanying the above symptoms, are easily explained by examination of histologic sections through such affected areas where ulceration of the gingival sulcus epithelium is a common feature. The restoration of the tissues to a normal state requires usually only a complete, methodical removal of the irritating calculus.

Carious lesions, particularly those located at the cervical margins of the teeth, are occasionally the cause of a localized gingival enlargement by virtue of the irritating action on the gingiva. The pathologic phenomenon involved is identical to that described under enlargements due to calculus formation and rarely are difficult to diagnose. Upon treatment of the defective tooth, the gingival lesion usually disappears without further therapy.

Restorations (e.g. overhanging fillings, poor contact points, and improperly contoured fillings) and *prostheses* (e.g. improperly placed or improperly contoured clasps) produce gingival conditions similar to those induced by calculus and by strategically situated carious lesions. Both the clinical and histopathological pictures are identical and, as might be expected, alleviation of the abnormal physical conditions results in a rapid restoration to normal of the gingiva.

Food impaction, per se, warrants no further consideration other than drawing attention to its similarity to calculus and foreign bodies in the type of tissue response which may be elicited. This response, usually localized, may be either acute or chronic in nature which readily responds to removal of the food debris.

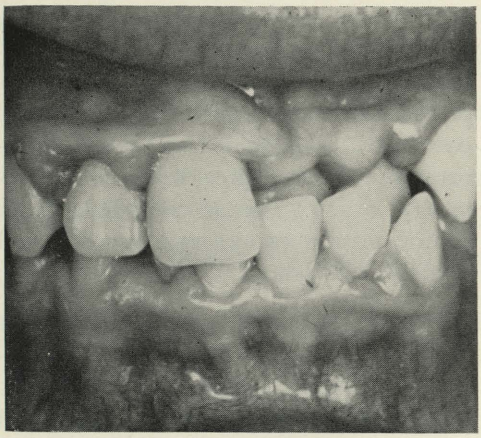

Figure 4. Gingival enlargement due to severe malocclusion.

Traumatogenic occulsion and habit (e.g. bruxism or "night-grindnig") not infrequently cause gingival enlargements in the quadrants involved as a result of the continuously or intermittently applied excessive forces. Such enlargements are usually some form of an inflammatory response ranging from hyperemia and edema to marked infiltration of defense cells. A very careful study of the patient's occlusion as well as an investigation of a possible history of "grinding habits," usually obtainable from a member of the family, are needed to establish the diagnosis. Once determined, occlusal equilibration or correction of habits will restore the gingiva to their normal state unless damage to the deeper periodontium has also been substained.

Type II Enlargements

Type II enlargements are basically identical with type I enlargements except that the condition is complicated by one or more systemic factors. It frequently happens that conditions exist locally which are of such a mild nature that no clinical enlargement occurs but, with the superimposition of some systemic factor, a gingival enlargement may appear. In effect, a subclinical condition induced by local agents is made clinically manifest by the

added insult of a systemic agent or factor. It is felt that, *in the absence of local factors* which condition the tissue and/or produce a minor inflammatory response, *no gingival enlargements ever occur,* irrespective of the degree of insult, due primarily to any systemic conditions (with one or possibly two exceptions which will be dealt with later.)

As may be seen in figure 1, the number of systemic factors which may lead to enlargement of the gingiva is quite limited. These will be considered individually and an attempt made to point out the role of local factors in systemic involvements in which there are gingival manifestations.

Drugs, with particular reference to dilantin sodium used in the treatment of epilepsy, may cause gingival enlargement. It is of interest to note that dilantin therapy is associated with such a gingival condition in only a limited percentage of patients. It is further noteworthy that, as far as is known, this enlargement occurs in no other areas of the body. Basically, the condition is due to a marked increase in the connective tissue elements of the gingiva but there is extreme variation in degree from patient to patient. It appears axiomatic that, since the connective tissue of the gingiva is also the only area of the body in which a low grade inflammatory reaction is nearly always present, this relationship between the inflammation induced by any one of a number of local irritating agents, the dilantin therapy, and the resulting gingival enlargement (here a true gingival hyperplasia) is more than a casual one. Why the tissue response in these cases is one of connective tissue proliferation is open to conjecture. Experimental studies to date have been most enlightening.

Clinically, these enlargements are of a bulbous nature, the gingivae are firm, show little hyperemia, and may vary in degree from a mild increase in bulk to a proliferation of tissue which may almost completely cover the teeth. The treatment of these cases is frequently difficult. Cessation of the drug may cause some recession of the tissue bulk as may thorough prophylaxis coupled with scrupulous home care. However, surgical excision is the usual treatment necessary. It is to be noted that, following excision, unless the gingivae are kept free of local irritating agents (calculus and debris specifically), recurrence is to be expected. This recurrence in patients with gingiva subjected to even minor irritation, but not in patients who are free from calculus lends further credence to the belief that the development of a dilantin hyperplasia is only possible in tissue previously or concurrently conditioned by local irritation.

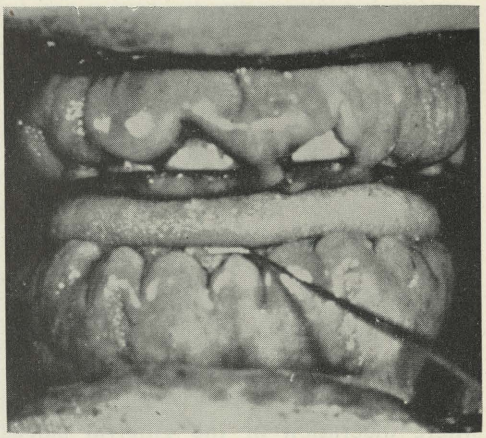

Figure 5. Extreme generalized gingival enlargement associated with acute monocytic leukemia.

Hormonal imbalances of various types also not infrequently give rise to gingival enlargements. Such a condition is frequently seen at the time of puberty, menstruation, and pregnancy. The development of the enlargements at the time of puberty is somewhat obscure but they are often explained on a hormonal basis. Care must be taken not to confuse an enlarge-

(Continued on page 29)

Dean Hine reports that...

(1) It is again possible to record that Indiana University School of Dentistry graduated an excellent group of 66 dentists this year and that all of those who took the Indiana State Board examination were successful. Judging from all available statistics, last year was the busiest one yet experienced at the dental school; the class of 1954 left a record which will be a challenge to every succeeding class. We wish happiness and success for each graduate and we hope to be kept informed regarding the progress of each.

(2) Thanks are due to the Student American Dental Association for their thoughtful gift of two pictures for our dental library. They are colorful additions to our library and it would have been difficult to justify their purchase from University funds.

(3) The teaching program of the dental school continues to undergo only minor evolutionary changes since revolutionary changes are not needed. In the undergraduate program, the pattern of teaching of partial denture construction is being changed, more technic is being taught in the freshman year and more emphasis is being placed on practice administration in the senior year. In the postgraduate field, after much careful planning, a Master of Science in Dentistry program has been organized; details will be announced soon.

(4) We are pleased to announce that Dr. Roland Dykema has returned as a full time Associate Professor in Crown and Bridge, after helping the United States Armed Forces for the last two years. The following men have been appointed as new members of the faculty:

Robert L. Bogan, Graduate Assistant in Prosthetic Dentistry

Samuel Goldsman, Research Assistant in Orthodontia

Charles E. Hutton, Instructor in Oral Surgery

Ralph C. McDowell, Graduate Assistant in Crown and Bridge

Robert C. Shirey, Graduate Assistant in Operative Dentistry

Donald E. Spees, Graduate in Crown and Bridge

It is expected that Dr. Charles Redish, Dr. James R. Roche and Dr. William Lawrence will join the faculty in September.

It is recognized that several major changes can be expected in the pattern of dental practice in the future. There will doubtless be more emphasis placed on prevention of dental disease, more attention will be given to diseases of the soft tissues, and there will be more widespread acceptance of "chair-time-saving" techniques such as the use of high speed cutting instruments, hydrocolloid techniques and the use of auxiliary personnel. It is our expectation to have the faculty informed and prepared to teach all new developments in dentistry as soon as they are well established.

The school is in need of extracted teeth for teaching purposes. All kinds are needed for the classes next fall. Please save the teeth which you extract and send them to Dr. Richard Misselhorn, 1121 West Michigan Street, Indianapolis 2, Indiana. They need not be in a preservative.

Senior Awards

The annual Senior Honor Day Program was held June 1 in the Student Union Building. The program was given in the evening and was well attended by wives, parents and friends of the graduating class. Dean M. K. Hine introduced the faculty members who presented the various honors.

The C. V. Mosby awards for outstanding work in certain fields were as follows:

Radiography—Robert W. Hammelman
Research—Lloyd J. Phillips
Prosthetics—Ralph C. McDowell
Orthodontia—James J. Baldwin
Hygienists—Geraldine E. Bailey

The cash prize and subscription to the Journal of Oral Surgery was received by James E. Hendricks, and John P. Berger was awarded the certificate of proficiency in Dental Medicine. Miss Fisk presented an award to Miss Joan Kline as the dental hygienist who showed the greatest proficiency in clinical practice during her senior year.

The Certificate of Merit from the American Society of Dentistry for Children was won by Parvin R. Raibley and Donald E. Spees. Ralph C. McDowell received a plaque for outstanding work in the Crown and Bridge Department. Dr. Philip Fogle presented another plaque from the National Chapter of Alpha Omega fraternity to Lloyd J. Phillips, who earned an outstanding scholastic record for four years of dental study. The Robert A. Botkin award was received by William R. Heiny. Paul Denver was awarded a year's subscription to the Journal of Periodontology for outstanding work in this area.

The cash award for the best essay on Oncology by the U.S.P.H.S. Cancer Research went to William E. McCloughan. Second prize was presented to Theodore C. Clarke and third to Allan Witters.

Floyd Hale and Dr. Harry J. Healey unveil paintings presented by the Junior A.D.A. James Calland, at microphone, makes the presentation.

First prize in the Senior Essay Award was presented to Lloyd J. Phillips, second to James H. Worster and third to Robert C. Johns. The annual award for the American College of Dentists to the student showing the greatest improvement since the freshman year was received by Robert C. Shirey.

Scholastic honors, recognized through election to Omicron Kappa Upsilon, were presented to eight membrs of the graduating class. The keys were awarded by Dr. Ralph McDonald, President of Theta Theta Chapter. The recipients were:

James J. Baldwin
Robert W. Bresick
R. Y. Fujimoto
Ralph C. McDowell
Lloyd J. Phillips
Richard L. Phillips
R. G. Robinson
William R. Shideler

The certificate to the sophomore who made outstanding record in the freshman year was awarded to David Lehman.

James Calland, on behalf of the Junior American Dental Association, presented two beautiful paintings to the dental school. Following remarks by Donald E. Spees, Senior Class President, light refreshments were served. Mrs. Roberta Hall, President of the Faculty Wives Club, and Mrs. Betty Enlow, President of the Dames Club, presided. The ushers for the evening were Fred Fillmore and Raymond Halle.

Dr. Ralph McDonald, President of Theta Theta Chapter, with the new members of Omicron Kappa Upsilon. First row: Dr. McDonald, Ralph McDowell, Richard Phillips, Robert Bresick. Second row: William Shideler, Royce Fujimoto, James Baldwin, Lloyd Phillips, Robbie Robinson.

Library

Mrs. Mabel Walker, Librarian

At the Honor Day program for the 1954 graduates of the School of Dentistry held June 1st in the Union Building on the Indianapolis campus, reproductions of two beautiful oil paintings to be hung in the library were presented to Dean Maynard K. Hine by the Student American Dental Association. The presentation was made by Dr. Harry J. Healey, Faculty Advisor for the Student American Dental Association and James F. Calland, President, and Folyd E. Hale, President-Elect.

Both paintings are by American artists. One, "Richard, Duke of Gloucester, and the Lady Anne," is by Edwin Abbey, the other, "Northeaster," is by Winslow Homer. Two pieces of pottery were also given for use in the library.

The library staff is extremely grateful for these gifts and appreciates the thoughtfulness of the Dean and Student American Dental Association in their presentation.

The library is glad to list the following book reviews of recent additions to the library, prepared by members of the faculty of the School of Dentistry:

HISTOCHEMISTRY, THEORETICAL AND APPLIED. A. G. Everson Pearse. Little, Brown and Company, Boston, 1953. 530 pp. $12.00

This book is one of the most complete compilations of the methods of histo- and cytochemistry which is available today. The author first briefly presents the history of histochemistry. He then methodically describes the fixation and the preparation of tissue for histochemical analysis including preparation by the freeze-drying technique and devotes considerable space to the theoretical chemical reactions involved in the numerous procedures. A large portion of this text is devoted to the techniques for the histochemical demonstration of enzymes and the book is a necessity for any modern pathology research laboratory. It is adequately illustrated by numerous photographs, both in color and in black and white and is well documented by the important, pertinent references to the literature.

William G. Shafer

THE FIRST FIVE YEARS OF LIFE. Arnold Gesel and Associates. Harper & Bros., New York, 1953. 393 pp. $4.00

Why a once perfectly behaved three year old child should return to the dental office a year later at the age of four and under identical circumstances become almost unmanageable has always been an unanswered question to many dentists. That such a peculiar change in behavior may be quite normal seems hard to believe yet according to the authors of this book, three is a delightful age while the four year old child is inclined to be independent and bossy.

The contents of this book are based on studies conducted by Arnold Gesel and Associates at the Yale Clinic of Child Development. As a result of their work which was carried on over a considerable number of years it is stated that children ascend to various levels of maturity in characteristic patterns of behavior.

All of us are quick to recognize the importance of early dental care for an effective preventive program. Yet all too often the uncooperative behavior of the preschool child completely disheartens even the most conscientious dentists.

Quoting from the authors, "The normal is misinterpreted as the abnormal and the child is misjudged because we do not perceive his incompleteness, his weakness and his inadequacy in terms of immaturity. This misinterpretation can be overcome by an intelligent appreciation of the process of mental growth."

A portion of the book describes a method of giving the prechild a developmental examination and is more appurtenant to the psychologist or pediatrician; nevertheless there is much in this that will prove to be of value to anyone concerned with dental care for children.

C. R. Castaldi

HISTOLOGY. Roy O. Greep. Blakiston Company, New York, 1954. 953 pp. $15.00

This text on general histology contains an excellent chapter on the oral cavity contributed by Sognnaes. This very modern histology text contains a brief explanation of histochemistry and shows a large number of illustrations of tissue which have been treated with these newer methods. The text is an excellent straight forward description of definitive microscopic anatomy. Embryologic, and physiologic considerations have been included for complete comprehensive treatment of the subject.

Grant VanHuysen

NUCLEAR PHYSICS. W. Heisenberg. Philosophical Library, Inc., New York, 1953. 225 pp. $4.75.

Radioactive material is being used in increasing amounts in dental research. This book by Heisenberg gives a lot of information upon the subject in simple language and without mathematics. There is no question but that the dentist will be called upon to assist in case of atomic bombing in the community. Heisenberg's book will help those who may be involved to understand a little better the nature of this problem.

Grant VanHuysen

PHYSIOPATHOLOGY OF CANCER. A TREATISE FOR INVESTIGATORS, PHYSICIANS, AND STUDENTS. Feddy Homburger. Paul B. Hoeber, New York, 1953. 1031 pp. illus. $18.00

This book, edited by Homburger and Fishman, is an excellent compilation of our knowledge today in related fields of cancer research. Considerable space is devoted to a summary of the various types of experimentally induced tumors in animals with each of these chapters being written by an outstanding worker in his field. The second section of this book deals with the chemistry of carcinogenesis and considers at some length the chemical and genetic mechanisms of carcinogenesis as well as chemical changes in cancer tissue as determined by analytical, cytochemical and histochemical studies. A section also deals with the chemotherapy of experimental cancer and studies on the radiation of cancer. The last sections in the book deal with the practical application of knowledge gained in the laboratory such as the evaluation of cancer diagnostic tests, the clinical use of chemotherapy and the use of exfoliative cytology in the human.

The book is an excellent review of a rapidly increasing field of research; it is well supplied with references for the research worker; and, while not a textbook that would necessarily be found on the shelf of every dentist, it is indispensable to workers in the field of cancer research.

William G. Shafer

PREVENTIVE DENTISTRY. Joseph Muhler, Maynard K. Hine, Harold G. Day. C. V. Mosby Co., Saint Louis, Mo., 1954. 336 pp., 56 illus. $8.50

Preventive Dentistry correlates the broad field of laboratory research with its clinical application. To give the reader the fundamental knowledge to comprehend this problem, the book first presents in an orderly manner the fundamental nature of enamel and dentin. With this understanding, a discussion of dental caries follows beginning with the natural resistance factors to dental caries. Following this are several chapters devoted to methods of controlling dental caries including the effect of ammonium compounds, diet, fluorine, and other less publicized technics.

The chapter on nutrition has considerable information concerning the essential nutrients necessary for health. It delves in detail into the effects of the omssion of any of these nutrients. The chapter is concluded with a discussion of the importance of nutrition in preventive dentistry.

A section of the book is devoted to the prevention of periodontal disease. It is well illustrated with many photographs showing various types of periodontal involvements.

The concluding chapter of the book deals with the prevention of oral cancer. This all important subject is presented in an excellent manner with several illustrations.

Although the book is entitled "Preventive Dentistry," it also deals with the problem of treatment adequately. At the end of each chapter is a summarization of the chapter and also a complete bibliography.

I would recommend this book particularly for the dental student, the dental teacher and the general practitioner who would be interested in some of the newer concepts of preventive measures in dentistry.

Henry M. Swenson

ROENTGEN ANATOMY. David Steel. Charles C. Thomas, Springfield, Illinois, 1951. 109 pp. $8.00

This volume on extra-oral radiography should prove extremely valuable to the student and practitioner. In everyday practice the radiolo-

(Continued on page 34)

Dental Hygiene

A. Rebekah Fisk, Director

At the Commencement Exercises of Indiana University on June 14th, the following dental hygienists received their certificates.

Geraldine H. Bailey, Logansport
Marlene R. Bleeke, Fort Wayne
Kay M. Boese, Indianapolis
Patricia A. Boone, Macon, Ga.
A. Lenore Clarke, Middlebury
Elizabeth Ann Finley, Marion
Betty J. Kiefer, Indianapolis
Joan L. Kline, Bremen
Marjorie L. Lloyd, Anderson
Adrienne J. McKinney, South Bend
Marcella C. Mitchell, Indianapolis
Carol M. Ottinger, Indianapolis
Marilyn R. Poel, W. Lafayette
Barbara Ann Rambo, La Porte
Dorothy E. Robinson, Rochester
Joan E. Robinson, South Bend
Janet P. Tarnow, Valparaiso
Donna J. Way, Zionsville

Both the 1952 and the 1953 classes were well represented at the meeting of the Indiana State Dental Hygienists' Association in May. The only member of the 1952 class who was missing was Gloria Horn, who was too busy with the arrangements for her wedding to Mr. Clarence W. Huxoll in Fort Wayne on May 22nd to attend. Members of the two classes held a meeting and organized the Dental Hygienists' Alumnae Association of Indiana University. The officers are Marilou S. Halle, '53, President; M. Anne Keenan, '53, Secretary. During the year a Constitution and Bylaws will be written and plans will be made for a meeting of the group next May.

Please keep the school informed of your activities.

Alumni Notes

Mrs. Cleona Harvey, Recorder

'Tis reported this is the hottest June ever in Indiana—we are not prone to argue! But we are going on vacation just as soon as we get this column written! All the excitement of State Boards has subsided and the eager beavers who volunteered and those who were "invited" are busily engaged in our summer clinics.

We have enjoyed hearing from each and every one of you (those who have written, that is??) and only hope that as you are taking vacations and/or "leaves of absence" from your busy practices for a period of "relaxation" with Uncle Sam that you will drop us a note and tell us of your activities.

And now for the news:

Class of 1892

Dr. A. A. Powell, 1984 Lundy Avenue, Pasadena, California, sends us a card in which he states that although he is 85 years old, he is still practicing. He says:

"My pet gripe of Ike—he makes postals too little and doubles the postage!"

Dr. Arthur T. White, 345 Parkway Building, 117 East Colorado Street, Pasadena 1, California, writes:

"Just been perusing the latest Bulletin. Most of the names are too new for me. Saw that Gillis had gone back to work. Bless his old heart, he never should have quit. Started my 63rd year last March 1, feeling swell.

"Dream of seeing you all some fine day."

Class of 1903

In March we received a brief note from Dr. Roy A. Weaver, Ellensburg, Washington, asking for the address of his classmate, Dr. Roy Bodine. Said he was planning to visit him soon.

Class of 1904

Dr. O. T. LaGrange, Corner Main and Jefferson Streets, Franklin, Indiana, really reads our column, as he says:

"I noticed in the Alumni Bulletin of July, 1953, a notice in the Alumni Notes, Class of 1902, an article written by Dr. Roland Low of Whittier, California, a member of that class. Although I am a graduate of the class of 1904 and just this week attended the fiftieth anniversary of our class at the Hotel Lincoln, Indianapolis.

"There are two things almost identical with Dr. Low and myself, as, first, I am the oldest dentist here in years and in practice. On August 7 I will be 74 and putting in full time at the office. And second, if my wife and I live until November 23, 1954, we will celebrate our fiftieth wedding anniversary. Now, I believe that is very unusual.

"I wrote a letter to Dr. Low about all this, and I received a very interesting letter from him. We will no doubt think of each other on that day.

"Best wishes to Indiana Dental College, and all my old classmates that I did not get to see at our anniversary meeting."

Class of 1907

It seems we are really stirring up the spirit of competition, and I quote from Dr. Charles A. Eller, 601 First National Bank Building, Albuquerque, New Mexico, who writes:

"That guy, Dr. H. A. Kelsey of Kokomo, makes me want to write. I am afraid he out-brags me. Of course I only graduated in 1907, so there has been much water under the bridge since then. He talks about all the work he did. Well, I did a little also. The class average 1907 was 443 points. I managed to do 1,365 points. Yes, Dr. Jackson was there. I can recall that Dr. Homer Strain, of Bloomington, which was my town, sent his brother, Joe, up to college to find out if I was worth working for him my senior vacation.

"Joe asked Dr. Jackson about Eller, and Jackson said, "Eller, well the worst thing I can say about him is that he does too much work." I got the job. I came to Albuquerque direct from school and have seen it grow from 7,000 to 140,000. Ernest Cofield stopped to see me on way home from California, and we had a good time chewing the fat."

"So, you see, come May I will have been on the go here 47 years. Still play poor game of golf, fair gin rummy and indifferent game of pitch."

Class of 1918

Dr. Russell F. Shafer, St. Luke's Hospital Store Room, Cedar Rapids, Iowa, had quite an interesting write-up in the Cedar Rapids Gazette of January 24, and we wish to quote part of it.

"Russell F. Shafer, 1100 Twenty-seventh Street, NE, is an old soldier who just isn't planning on fading away. . . .

"Lt. Col. Shafer is completing nearly 32 years as a reserve officer and he can

trace his first tour of active duty—as an enlisted man—back to World War I. . . .

"Col. Shafer began his service with the army on November 2, 1917. He was fresh out of dental school at Indiana University. He served for 13 months and then was discharged.

"Although a native of Cedar Rapids, he taught at Indiana University for four years, then settled in Indianapolis where he began to build up a practice. In 1922, he accepted a commission in the army dental corps."

"Through six years of active duty during World War II he had tried, unsuccessfully, to get an overseas assignment. Army brass just wouldn't listen to his pleas.

"But when they urged him to return to duty in 1949, he decided he was getting too old to go jumping around the globe, so he agreed to return to duty only on the condition that he get an assignment close to home. His offer was accepted. Three months later he was in Tokyo.

" 'Now that it's over I'm glad they sent me to Japan,' he says. 'I always wanted to get overseas and it was a wonderful experience.'

"Shafer served 37 months on that tour and then came home to Cedar Rapids. Since that time he has been working at St. Luke's hospital, and leading reserve activities in the Cedar Rapids squadron of the air force reserve."

Class of 1930

Dr. Floyd E. Lytle, 125 William Howard Taft Road, Cincinnati 19, Ohio, sent us a very interesting card with a drawing of his new office and a map of the street leading to it.

Class of 1935

Dr. Arthur Stone is now Commander Arthur Stone, Box 363, Parris Island, South Carolina.

Class of 1940

A change of address for Dr. F. K. Etter is as follows:

Dr. F. K. Etter, Commander, DC, USN
Dental Department, Building 600
U. S. Naval Training Center
Great Lakes, Illinois

Dr. and Mrs. William D. Micheli, 1005 Odd Fellows Building, Indianapolis, Indiana, have a new baby girl, Cathy Ann, born March 18.

Class of 1944

Dr. Ernest K. James, Lowell, Indiana, has been released from service and his address is now as given above.*

Dr. John E. King has been released from service, and his address is now 2130 Wabash Avenue, Terre Haute, Indiana.*

We note from the Indiana Alumni Magazine that Dr. Robert B. Stone "has reopened dental practice in Indiana, after duty with the Navy. Before being recalled to service he practiced six years in Indianapolis. Dr. Stone lives at 714 Clarendon Place with his wife and two children."

Class of 1945

Another note from the Indiana Alumni Magazine tells us that Dr. Arthur J. Mullin, 918 North Garfield Drive, Indianapolis, Indiana, "recently returned from Army duty in Korea and will reopen his dental office in Indianapolis.

"As an Army captain, Dr. Mullin was stationed with the Fourteenth Field Hospital in Korea one year and was then assigned to the Tokyo Army Hospital for another year. He was made an honorary member of the Korean Medical and Dental Society. Dr. Mullin interned at Indi-

anapolis General Hospital during 1945-46.

Dr. Arnold M. Russo has been released from service and his address is now 6135 North Tuxedo Street, Indianapolis, Ind.*

Class of 1946

Dr. Glenn R. Bollinger has been released from service and his address is now Box 283, Russiaville, Indiana.*

Dr. Angel P. Garcia has also been released from service, his home address now being 147½ West Main Street, Jasonville, Indiana.*

Class of 1947

Several of the 1947 graduates are returning from active duty with the Armed Forces and send us cards announcing the reopening of their offices:

Dr. E. Byrd Barr
4111 East 38th Street
Indianapolis, Indiana

Dr. Hudson G. Kelley
445 North Pennsylvania Street No. 819
Indianapolis 4, Indiana

Dr. James R. Roche
3143 East 38th Street
Indianapolis, Indiana

Also, according to information received from the American Dental Association, Dr. Harold J. Compton has been released from active duty and his address is 1603 East Wabash Street, Frankfort, Indiana, and from the same source we learn that Dr. David A. Gephardt, 1916 West 9th Street, Anderson, Indiana, and Dr. Billy G. Temple, Millerwood Drive, New Albany, Indiana, have returned from service.*

Dr. Richard W. Moss was in to see us and also wrote a letter. They have a new baby girl, Julie Ann, born March 19, 1954. I know you will be interested in knowing what he is doing so I quote from his letter:

"I recently started a three year residency training program in Oral Surgery in the Veterans Administration Center Hospital here in Milwaukee. Part of my training includes graduate courses at the Marquette Medical and Dental School, so I must have a transcript for the Dean of the Graduate School.

"The Residency program is a tremendous thing and I am very happy to have been appointed. As you may remember, I have been working in a V. A. Hospital at Salt Lake City, Utah, since my return from Japan in 1951. Lois and I were both quite impressed by the "West" and intend to return there upon completion of my training."

Class of 1948

A letter from Dr. Thomas M. Boyd reports:

"Greetings from Griffiss Air Force Base at Rome, New York! I may have mentioned before that Rome is an Italian settlement of approximately 40,000 and is situated where the Mohawk River enters the Erie Barge Canal. It is the home of Revere Copper and Brass Company and the General Cable Corporation. The New York Central Railroad passes by here on its direct route from New York City to Indianapolis.

"Griffiss Air Base has a populace of 2,000 military personnel and 5,500 civilian workers. The base is comprised primarily of the Air Research and Development Command projects which are mostly electronic and we house some huge supply depots for the Air Materiel Command. A recent Pentagon directive indicated that the Air Materiel Command will assume command of Griffiss as of July 1, 1954. Other constituents here include a Radar Calibration Squadron, Flight Testing, and a Fighter Squadron of jet planes from the Air Defense Command. The F-86 and the F-94-C jets provide the greatest intrigue for the observer, but nat-

urally we see all kinds of visiting aircraft down on the flight line.

"Three of us recently toured a C-124 Globemaster from Moses Lake, Washington. It was almost like a fabulous floating ballroom inside and the pilot was very proud of his ship."

"The dental clinic is part of a seventy-five bed hospital, but they are now in the process of constructing a new dental clinic in the base dispensary down near the flight line. A new two-chair clinic will be located in the flight surgeon's office in the hospital for one of us on rotation duty from the main clinic.

"We have a fine group of young dentists here, but as time progresses I'm even prouder of my I.U.S.D. heritage, and the years I spent on the staff particularly with regard to diagnoses and prognoses.

"By and large my dental experience has been fairly well rounded here in general practice. When I first arrived and started performing some root canal therapy, the assistants stood around in amazement as though I were doing something entirely revolutionary. Apparently the preservation of non-vital teeth was almost a lost art here, because I've been swamped with root canals ever since.

"Some of us have attended both the Rome and Utica Dental Society meetings, in fact, Griffiss AFB was the host to an Implant Denture meeting last week. Recently we started a weekly seminar within our own hospital group which we hold in our new library."

Then in May we received from Dr. Boyd the announcement of the birth of Barbara Ann on May 1.

Class of 1949

Dr. Tom Boyd's letter also informs us that "Washington's Birthday provided a three-day week-end for us to pay Lieutenant and Mrs. Darwin Reed a visit at the Naval Submarine Base in Groton, Connecticut."

Dr. Frank P. Mandel has been released from service and his address is now 3490 Raymont Boulevard, Cleveland, Ohio.*

Class of 1950

Dr. Howard M. Stein announces the removal of his office to 6631 Laurel Canyon Boulevard, North Hollywood, California.

Class of 1951

Dr. Theodore D. Bean has been released from service and is now located in the Farmers State Bank Building, Valparaiso, Indiana.*

We are happy to get this good news from Dr. G. F. Cunningham, 705 North Second Street, Vincennes, Indiana:

"You will doubtless be pleased to know that I was given a passing grade in my California State Board examination taken in February.

"It was with considerable elation that I received the news, and look forward to locating there, probably in the northern part.

"Thank you for your cooperation in helping to make this possible. I regret leaving Indiana, but believe that I am doing the best thing.

Evidently our dental school enjoys good standing in California. May it continue to grow and improve."

Dr. Jerome Schweitzer, 730 Fifth Avenue, New York 19, New York, wrote us in February with a question:

"Last November, while I was in the Far East, I visited Thailand and made the acquaintance of a young Bangkok dentist who had recently taken a postgraduate course in Crown and Bridge, given at I. U.

"I believe he took the course under Dr. Johnston in 1952. This probably was the

same postgraduate class that Dr. Fleishman and Dr. Schwimmer were in.

"I am interested in corresponding with the fellow in Bangkok and would appreciate it if you would send me his full name and address."

We were happy to be able to give him the address of Dr. Rith Boozayaangool, Dental School, Sanammah Road, Bangkok, Thailand. Dr. Rith, many of you will remember, spent the school year of 1952-53 with us and has now returned to Thailand.

Class of 1952

A card from First Lieutenant Rafael Aponte, AO 2260372, 32nd Bombing Squadron, APO 117 c/o Postmaster, New York, give us an interesting bit of news:

"This temporary duty overseas is giving me a chance to visit Europe, although very hastily. Regards to friends in "Hoosier Land."

Dr. Edgar M. Benjamin, Dental Department, Clinical Center, Department of Health, Education and Welfare, Public Health Service, National Institutes of Health, Bethesda 14, Maryland, sounds very busy as he writes:

"You are probably surprised to hear from me and I am sure you will be amazed to learn that I am doing research. Strangely enough, I am enjoying it.

"Enclosed is a periodontal study outline which I have submitted for approval here at the National Institutes of Health. I would appreciate your comments and criticisms very much.

"The outline is largely self-explanatory, however, I thought you might wonder about the "standardized" bite wing film. They are taken with a device which positions the film and the cone the same each time. Of course, the films are given a standard processing.

"Please say hello and give my best regards to everyone at I. U."

A change of address for Dr. Robert A. Cox, who is now located at 105 North Mulberry Street, Cambridge City, Indiana.

Dr. John H. Ehret, 220 Carruthers Street, Bayview Park, Monterey, California, wrote us in January about his work:

"Following graduation I went to Letterman Army Hospital as a dental intern, and spent one enjoyable year there. I certainly would recommend the Army internship to any students that have future service confronting them. They have a well organized program and a wealth of material which they take advantage of to the fullest extent. The civilian consultant staff at Letterman Hospital was exceptionally good, and very beneficial to the program. It also offers you a chance to become associated with fellows who have attended other dental schools, and get a comparative view as to the education we receive at Indiana University. I can say, without any reservation, that our dental education was quite well rounded."

Dr. William K. Kelly announces the removal of his offices to 2911 Shelby Street, Indianapolis, Indiana.

Dr. W. A. Shoemaker, Jr., sends us a change of address. He is now located at 505 Loretta Street, Coral Gables, Florida.

Class of 1953

Before I give you the news of the 1953 Class, I wish to go on record with a hearty "thank you" for all the news. If all of you dear people would send in news like this. our editor would maybe give me a "raise"?!!

Dr. Thomas Garman, 110 Alabama Street, Apartment D, Forrestal Village,

(Continued on page 32)

GRADUATING CLASS OF 1954

FIRST ROW: Dawson, Robert; Gordon, Michael; Hinton, Bailey; Heiny, William; Cook, Carlton; Calland, James; Baugh, James.

MIDDLE ROW: Fujimoto, Royce; Hendricks, James; Bogan, Robert; Beck, Joseph; Baldwin, James; Berger, John; Bly, Phillip; Hooper, Jack; Fread, Donald.

LAST ROW: Carr, Guthrie; Ball, Robert; Carlson, Roy; Clarke, Theodore; English, Allen; Denver, Paul; Hammelman, Robert; Alling, Emery; Bresick, Robert; Crouse, Jack; Johns, Robert.

FIRST ROW: Phillips, Lloyd; Weinsoff, Jack; Alonso, Mario; Rumbaugh, Irma; Witters, Allan; Worster, James; Kinare, Shrihant; Putman, Richard.

SECOND ROW: Miller, William; Krause, James; Warpenburg, Marion; Phillips, Richard; Railbey, Parvin; Shideler, William; Szakaly, John; McDowell, Ralph; Robinson, Robbie; Parks, William; Rhine, Gilbert; Wood, Robert; Surillo, Santiago; Shirey, Robert; Halsey, Robert.

LAST ROW: Kerr, Harry; Gardiner, Glen; Libke, Joseph; Snyder, Hugh; McCloughan, William; Scircle, Robert; Spees, Donald; Leiva, Jose; Polack, Edwin.

Class and Fraternity Notes

FRESHMAN CLASS

The activities of the Freshman Dental Class during the spring semester were highlighted by the "Toothachers Bawl," the annual spring dance. The dance was held at the Candlelite Inn in Bloomington. Seventy couples danced to the music of Al Officer and his combo. The dental atmosphere prevailed as members of the class and their dates entered by walking through a doorway decorated as a complete set of dentures. Plaster teeth were distributed on the tables and served as favors of a memorable evening.

A picnic was held at Lost Lake on April 23, 1954. Guests included upperclassmen from the Indianapolis campus. Most of us have also enjoyed the rush parties and dances given for us by the professional fraternities in Indianapolis.

As we approach the end of our first year in dental school, the actual study of dentistry is becoming more of a reality. The curriculum is more closely applicable to our future professional work. The importance of pre-professional training can now be well understood and appreciated.

Robert H. Owens

SOPHOMORE CLASS

The sophomore class is making last minute preparations for our entrance into the clinic. We are now ready to apply the theory and laboratory technique to clinical cases.

One of the highlights of this second semester was an all-day trip to Lilly's Pharmaceutic Company. We visited the Kentucky Avenue plant and were shown the processes of penicillin production, also the sanitary and exacting methods in which drugs are compounded and capsuled. The afternoon was highlighted by a trip to the Greenfield plant where toxins, anti-toxins, vaccines, and similar products are manufactured.

Our social life was augmented by the J.A. D.A. dance and numerous fraternity affairs. Al Miller and Vern Martin both have entered into matrimony during this semester.

JUNIOR CLASS

The Junior year, having been, in most cases successfully completed, has unfolded to the third year student a wealth of information and experience. We are finding that, though confining our field may be, the oral cavity, the scope of our subject is indeed broad. In fact, so broad is it that we wonder if we shall ever be qualified to undertake the responsibility of private practice.

Our class activity socially has been minimized what with fraternity weekly parties, the Dental Dames dance, the Jr. A.D.A. dance and certain other events in and about Indianapolis. Other atcivity, however, has been at a high pitch, especially that of fulfilling our clinical requirements, with such men as Ollie Kimche setting the pace with at least 2,000 alloy points, and Floyd Hale delivering his twentieth prosthetic appliance, while Don Stikeleather is demonstrating graduate surgery for the seniors.

The second semester found us carrying approximately twenty, more or less, theory courses, laboratory courses, and clinics. And we wonder how, with so many avenues of enterprise, we can still remember how to tie our shoelaces. (Many of the boys are wearing loafers.) Being invited to the state convention was a gift. Some of us had time to do the lab. work we had piled up and due, others took advantage of the commercial displays and free samples to the extent that they are thinking of setting up dental supply houses to dispose of their loot. And, of course, we all enjoyed the papers presented and were particularly proud of the papers done by our faculty.

We are looking forward to our promotion to senior standing, for we have ascertained that in the process of dental education it is the policy of the faculty to look upon the student with senior standing with more favor than his underclassmen. In other words we are looking for a more humane year next fall.

With a parting glance at this junior year, however, we must thank our educators for seeing us through (or perhaps seeing through us?), for this was the year that required their diligence, their patience.

John Borkowski

SENIOR CLASS

The long awaited graduation date for the Class of '54 is drawing nearer and nearer. With the senior practical examinations a thing of the past now, the senior class has settled back to await the results and anticipate the forthcoming graduation. Everyone is now busily engaged in finishing requirements for graduation, perfecting his gold foil technique and replacing the long neglected temporary stoppings and sedative treatments that come to memory as having been placed in some patient's mouth some few weeks or months ago. The majortiy of the class has plans already made for the future and need only to graduate and pass the board examinations before putting them into action. From the locker room gossip this class will spread out all over the country, especially in the armed forces. We are extremely proud of this fact for we would like to represent our good school in as many states as possible. In this way we feel we can distribute the good dentistry we have been taught throughout the United States. The class is very sincere in wanting to be a credit to the school and will be very proud to bear the title of "Graduate of Indiana University School of Dentistry."

The social wind-up of the class is now in full swing with the annual razz banquet the thing of the moment right now. Our chairman, Harry Kerr, is busily appointing committees and making assignments in order that we will do justice to the idea of the occasion. The date of this event will be June 3. Honor Day for senior students will be two days prior to this, June 1. On May 26, the class has been invited to visit the Eli Lilly plant for a full day and then enjoy an evening of entertainment. Needless to say we are eagerly awaiting this day.

Congratulations are in order for our newlywed classmates and fathers at this time. To my knowledge we have only one new husband since the last article and two new fathers, although quite a few stork visits are in the offing after graduation. Our new husband is Bill Parks, married only since December. Our new fathers are Jack Crouse and Jack Weinsoff. Congratulations to all three!

The class as a whole miraculously escaped the big epidemic of mumps this spring, although one of our members was stricken. We were very sorry to have Glen Gardiner take an enforced two week vacation from us on this account, but I do not think he was hurt too much academically by his leave. Good boy, Glen!!!

Since this is the last article that the class of '54 will write for the bulletin, we wish to thank Dean Hine and the faculty for the fine instruction and guidance they have given us through our four years at the Indiana University School of Dentistry. We sincerely hope that we will be a credit to the school and we will always try to carry out the principles that they so earnestly and graciously have taught us during these years.

Robert D. Wood

ALPHA OMEGA

With the spring semester quickly coming to a close, the Alpha Omegans have found themselves busily engaged in preparing for their annual Senior Farewell. The affair this year was held on May 15th at the Lincoln Hotel. Dean Maynard Hine was the major speaker of the evening. The presence of Dr. Louis Galin, National President of the Alpha Omega Alumni Organization, also added distinction to the affair. The farewell was in honor of the graduating seniors, Paul Denver, Edwin Pollack, and Jack Weinsoff.

The dinner was followed by a dance which was open to all dental students. Thus the affair affords the Alpha Omegans their only opportunity to return the hospitality so generously offered to them by the other dental fraternities.

In a recent meeting officers for the coming academic year were elected. They are: Norman Glassman, President; Louis Benjamin, Vice-President and Historian; Marvin Bernstein, Secretary and Scribe; and Dave Lehman, Treasurer.

The active members of the fraternity as well as the alumni group of Indianapolis are now busily engaged in a drive to raise funds for the dental school in Israel. The need for a dental school in this neophyte nation has long been recognized. Such a school has already been built and the freshman class enrolled.

Marvin Bernstein

PSI OMEGA

This past school year has been an eventful and progressive year for the Omega Chapter of the Psi Omega Fraternity. This year has seen the remodeling of the fraternity house, plus the annexation of a small house located to the south of the main fraternity house for the purpose of increased housing for the students. The project included the enlarging of the living room, repainting of both the interior and exterior of

the house, and partial refurnishing of the living area on the main floor. Also one of the greatest improvements made this year was the installation of two new heating units for the main chapter house.

The social calendar of the year, both for the active members and alumni members, has been a full one. The season was opened early with a "watermelon mess" and street dance. As the year progressed the social functions included a "South Pacific" dance, a Christmas dance, a "hero" dance, and spring rush dance. This year's rush program was truly an active one. The freshmen were treated to a rush party in Bloomington, and then a banquet and dance at the chapter house.

Recently the active chapter elected its new officers for the coming year. The new Grandmaster is John Borkowski; Junior Grand-master, George Jancosek; Treasurer, Donald Johnson; Secretary, Gene Gore; and Chaplain, David Ferguson.

DELTA SIGMA DELTA

It is that time of year again. The race cars are roaring, the fish are waiting to be caught, and the spring meeting is about to get under way. Probably the only thing keeping the school going is the will power of the Dean and, of course, a few requirements here and there.

Xi chapters was well represented at the district conclave, which was held at Louisville, Kentucky, the last week-end of March. Bob Keesling and Dick Williams were the official representatives. Those who attended, in official capacity and those who went for pleasure, found the dental students of U. of L. friendly and gracious hosts.

The Delta Sig house has been popping with activity for the past few weeks. Rush, you know. Rush chairman, Charles "Monk" Hall, says, "Let's go to Bloomington." The house is looking trimmer than it has in many years. Whether this was the result of Rush enthusiasm or the Mayor's "clean up, fix up week" I wouldn't say.

Our Rush parties, the "stag" May 7th, and the dance the following night, were very good affairs. They were entirely in keeping with Delta Sigma Delta tradition. Installation of newly elected officers was done at the May 10th meeting. The graduating seniors will be initiated into the graduate chapter May 22nd. The Indianapolis Delta Sigs will hold a banquet and dance in their honor at the Highland Country Club that night.

Delta Sigs everywhere feel deep regret over the untimely passing of our former Deputy, Dr. Wade LaRue. Dr. LaRue's room at the house has been officially designated by the chapter as the Dr. Wade LaRue Memorial Room.

Our new Deputy, Dr. Frank Denny, is doing a tremendous job.

Don't forget, Delta Sigs are welcome at the Chapter house anytime. *Jordan Scull*

XI PHI PHI

Just a note to let you know that the Zips have been quite busy this past year.

The house was painted throughout the first floor and basement, which included the party rooms, lab, living rooms, and kitchen. New chandeliers were bought and installed in the front hallway. Plans also have been made to paint the outside of the house this summer.

Early this spring a banquet was held at the new Union Food Service building in honor of Dr. Ert J. Rogers and it was proposed to have similar banquets in the years following to be held in the fall, honoring various other outstanding alumni. This would be another chance for a get-together besides the May meeting.

New officers were elected and they are as follows: president, Ellis Shackelford; vice-president, Dwain Love; secretary, Paul Cleeter; and treasurer, Ronald Melser.

In closing, just a word about the very enthusiastic wives of the active members called the Zippettes. A word of thanks to their splendid efforts in helping at our parties throughout the year. Without them, the festivities wouldn't have been the same. *Dan Hayes*

A DENTAL PROGRAM

(Continued from page 7)

treatment on the mornings that are used for undergraduate teaching. Through the excellent cooperation of the anesthesia department the cases are treated in one of the operating rooms of the dental clinic.

While the operation is being carried on, the anesthesiologist will explain to the student the anesthetic or combination of an-

esthetic agents used. On completion of the treatment the students are taken to the ward where the patient is being cared for and the instructor will explain the writings of orders, daily progress notes as well as the procedure used in Riley Hospital for admitting and discharging patients.

Students Make Ward Rounds

Since the hospital is a state institution and the dental clinic is the only one in the state specifically for handicapped children we have patients coming from all parts of the state, many from distant parts. This in itself presents the problem of failed appointments especially during the winter months when driving conditions may not be optimum. If it so happens that only one or two patients are able to keep appointments, the extra time remaining during the morning is used to take the students on ward rounds through the hospital. Since the dental department is called upon to treat dental problems of children who have been hospitalized for medical reasons these cases are used for the ward teaching. If it so happens that no cases of specific dental interest are available, the students and instructors attend the ward rounds being conducted by the pediatric staff.

We believe our undergraduate hospital teaching program has one additional purpose in that it serves to acquaint the students with the dental service that is available for the handicapped children in the State of Indiana. Whenever a handicapped child is found to be unmanageable under ordinary office procedures the parents need not feel that the child will be neglected since the dentist can refer the case to our clinic for treatment. After the major part of the treatment is completed, the referring dentist may be asked to see the child periodically for re-examination and evaluation, especially those patients who live considerable distance from the clinic.

The students are urged to cooperate in the program after graduation. A record is kept of the names and addresses of graduates who have participated in the program as undergraduates so that if possible some of the treatment for the handicapped children can be taken care of at the local level.

GINGIVAL ENLARGEMENTS

(Continued from page 12)

ment of the gingiva at this period associated with a variation in endocrine function with an enlargement due to a purely local factor such as mouth-breathing. This latter factor may be of such a magnitude that, by conditioning the tissues, the systematic hormonal imbalance which would otherwise be relatively inocuous does produce enlargement.

At menstruation, the gingivae will occasionally become enlarged to a marked hyperemia and vicarious menstruation may actually occur. The role of inflammation in this condition is obscure but it seems most reasonable that a tissue in which vascular changes have already occurred on a local basis may be further insulted by the hormonal disturbance occurring at this time.

During pregnancy, a variety of gingival enlargements may occur which range from a generalized enlargement affecting nearly all gingival margins to a single tumor-like involving one margin. Clinically, these gingivae appear very hyperemic, bleed easily but are not particularly painful. The isolated tumor-like structure frequently referred to as a "pregnancy tumor" appears as a deep red mass of tissue with a smooth or pebbled surface which tends to bleed easily and is not especially painful. In nearly every case, careful examination will reveal an irritating agent, usually calculus, beneath the margin of the gingiva affected. Here again, it is felt that the enlargements occurring at the

time of pregnancy are simply inflammatory lesions secondarily complicated by a systemic factor which, in itself, is not sufficient to produce such a lesion.

It is interesting to note that, microscopically, the "pregnancy tumor" is identical with a fibrohemangioma which in turn is identical with certain forms of the pyogenic granuloma which has been previously described. In short, the lesion which has been called a "pregnancy tumor" in a pregnant female often occurs in males and non-pregnant females as well, and in these latter cases are usually called a pyogenic granuloma.

That a systemic factor does play some part in the development of the lesions in pregnancy is emphasized by the clinical regression of many of these lesions following delivery. If such regression does not occur and if local oral prophylaxis fails, surgical excision is usually the treatment of choice.

Vitamin deficiency, with particular reference to vitamin C deficiency producing the condition of scurvy, is classically described as being characterized by gingival enlargement. In years past, this condition was a fairly common clinical one. Today it is rarely seen and because of this, warrants little discussion. It is sufficient to point out that local irritation is the basic responsible factor and, with a vitamin C deficiency resulting in an interference with collagen formation and repair, the local inflammatory response is of a greater magnitude than would occur in a tissue not conditioned by such a systemic deficiency.

Blood dyscrasias, most commonly leukemia, frequently are manifested in the oral cavity by gingival enlargement. This enlargement is more commonly seen in monocytic leukemia, although occasionally lymphatic leukemia will also produce similar lesions.

Clinically, the condition appears as swollen, boggy, reddish gingivae which are

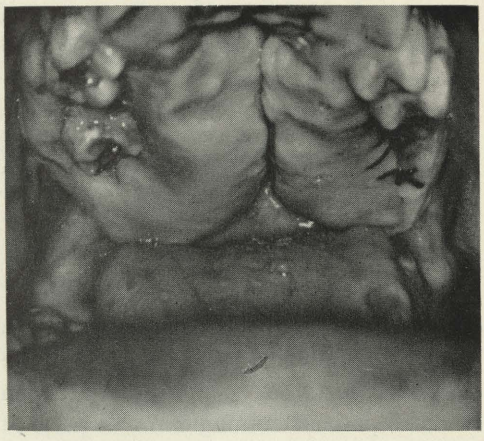

Figure 6. Fibromatosis. Hereditary enlargement of the gingiva and palate.

usually tender or painful and tend to bleed easily. Microscopically, a dense infiltration of atypical leukocytes through the gingival connective tissue is seen.

This gingival enlargement, also, occurs on a primary basis of local irritation, usually calculus formation. Oversimplified, the gingiva may be pictured as being crowded by leukocytes as in the normal pattern of inflammation but, since the circulating atypical cells outnumber of typical ones, the usual picture of "leukemic gingivitis" results. Obviously, in the absence of any local factors to provoke an inflammatory response, leukemic infiltration manifested as a clinical enlargement cannot occur. Of particular importance to the dentist is the fact that not infrequently the first sign of this disease is enlargement of the gingivae with difficulty in eating, and he should be particularly cognizant of such systemic conditions as may be possibly diagnosed by him.

Since this disease is invariably fatal, any treatment given is purely palliative. Because of the dangers of profuse bleeding and the ease with which these patients become infected by normally inocuous organisms, in general, any but the most superficial oral manipulations should be discouraged.

Neoplasms as a group appearing as gingival enlargements are beyond the scope of this paper, entailing a separate discussion in themselves. Briefly, either benign or malignant neoplasms can produce such enlargement, but there is usually little problem in differential diagnosis. Of all conditions causing gingival enlargement, the role of inflammation in the development of neoplasms is most poorly understood.

One lesion which may bear consideration here, however, is the "peripheral giant cell tumor" which was formerly considered as a neoplasm, but is now believed to be a tumor-like growth of an inflammatory nature. This localized lesion of the gingiva, usually occurring anterior to the molar teeth, varies considerably in clinical appearance. It may appear highly vascular or relatively avascular, it may or may not be ulcerated, it may have a smooth or rough surface, and may or may not bleed readily. Not uncommonly these lesions appear to be attached deep, either to the periodontal membrane or the periosteum. Probably because of this, incomplete or inadequate surgical excision, the treatment of choice, is occasionally followed by a recurrence. Surprisingly, it is not uncommon to find these lesions involving the alveolar ridge of edentulous jaws and here many will show considerable bone destruction.

Miscroscopically, the "giant cell tumor" presents a characteristic picture of a highly cellular, fibrous stroma showing numerous multinucleated giant cells, many small capillaries and frequent focal collections of hemosiderin pigment.

Heredity plays a part in one condition causing gingival enlargement: fibromatosis gingivae (elephantiasis gingivae). This is a relatively rare lesion which, at least in some case, appears to be on a hereditary basis. It is characterized by a very firm, diffuse overgrowth of the gingiva, sometimes including the palate. Because of a familial history in some cases, the role of inflammation in its development is probably negligible. The only successful treatment, usually desirable for cosmetic reasons, is surgical removal of the excess tissue. The microscopic features are simply those of an extremely dense fibrous hyperplasia.

Figure 7. Peripheral giant cell tumor. A localized gingival enlargement of obscure etiology.

Discussion and Summary

In the preceding discussion an attempt has been made to present and clarify the view that the various factors causing gingival enlargements are all related with regard to the pathogenesis of this particular condition. Type I enlargements based purely on local factors are closely related to type II enlargements (those with a systemic factor superimposed) in that a common denominator is present in both types: local irritation. In the absence of a local irritant, it is not believed that gingival enlargement can occur, even in the face of the most extreme variety of systemic dysfunctions or disorders.

The clinical as well as the microscopic appearance of the various gingival enlargements have been briefly described, with an attempt being made to point out differences where such occur.

(Continued on next page)

The treatment of this group of lesions does not differ radically from case to case since they are all related on the basis of etiology. The fundamental axiom, removal of irritant, is as true and as helpful under these circumstances as in any imaginable.

When there is complete understanding of the fact that the fundamental pathologic phenomena of inflammation, degeneration, infection and neoplasia as occurring in the oral cavity are idenitcal with those occurring elsewhere in the body, modified only by local circumstances, then the complex problem regarding etiology, diagnosis, and treatment of such lesions will be resolved into one of greater simplicity.

ALUMNI NOTES

(Continued from page 23)

North Chicago, Illinois, wrote us in January and gave us some information about a lot of folk. The news may be somewhat out of date now, but you will enjoy reading it, anyway, I am sure:

"Just a word about some others in the class of '53. Dr. Stetzel is now in San Diego; Dr. McKean is on a carrier; Dr. Lawton leaves January 29th for Norfolk to board the U.S.S. Midway for duty in the Mediterranean area and Dr. Mercer just received orders to go aboard the U.S.S. Boxer to operate in the Pacific area.

"At the present time I have my family here at Great Lakes and am enjoying the Navy very much. Tentatively, I hope to remain here as a teacher in the U. S. Navy Dental Technician's School. There is nothing definite as yet. I'll bet Dr. Johnston would get a laugh out of that—Garman as a teacher!

"Please give my regards to all at school, and I will try to visit there if I ever get a chance."

Dr. Wayne Heath, U.S.S. Geo. Clymer APA 27, c/o FPO, San Francisco, California, who is a lieutenant j.g., also gives us some news about the class of 1953 in his letter dated May 17:

"The family loves it out here and are having a wonderful time. Our family still consists of three boys and nothing expected, at least right now. We have a nice home up on the hills overlooking the San Diego bay and guess who lives right next door? Tom Tanner and his wife. We are both stationed on the same type of ship and are in the same Division of ships. Neither of us have left the "States" since coming out here, but we are both scheduled to make the trip to Japan and Hong Kong in September. Pat Kelly is also on the same type of ship, but his is over in the far East now, so we havent' seen much of him. He is due back in the "States" about Christmas time, I believe.

"Bob Stetzel was stationed here in San Diego with the Marine Corps until a few weeks ago. Then he received orders for Japan and after completing a few weeks of field training he will be on his way. We are going up to Oceanside to say goodbye to him this next week-end. He is a little unhappy about it because his wife cannot go along and he will be gone for over a year.

"We understand that Ed Lawton is on a carrier in the Mediterranean and that Tom McKean is on a ship out of Norfolk. Although Tom Garman is in the Navy we're not too sure where he is. The last report we had on him was from Great Lakes.

"My ship is a little unique in that it is a converted luxury liner. Although the Navy has made great changes in her appearance there are still a few things which distinguish it from other Navy ships, such as the bathtubs in all staterooms. At the present time I have a little over 400 men to care for, so there is no lack of dentistry to be done. Espcially since there is such

a rapid turn over of personnel in the Navy. We even have a little prosthetic lab so it amounts to a nice little general practice. I have plenty of help with two or three dental technicians on board."

Dr. Richard H. Reinking, 2017 Fifteenth Avenue, South, Seattle, 44, Washington, wrote us just in time for us to include it in this column, which pleases us very much:

"Thank you for your note of May 10 and for sending my Founder's Day Certificate. It hardly seems a year since I was finishing as a senior. My internship with the Public Health Service here in Seattle has proved very beneficial. Our stay here has reaped other benefits, too. We are now in the process of adopting a baby girl and a three year old boy. We are hoping that it won't be many months before we can visit Indianapolis again."

Dr. Thomas P. Tanner, lieutenant j. g., also gives us somewhat of the same news as was in the letters of Drs. Heath and Garman, but it is so interesting I want to quote all of it:

"I received by Alumni Bulletin the other day and was glad to hear about things and happenings and people in and about the old amalgam mill. I thought it might be of interest to you folks at the school and alumni to know where those of us in the Class of 1953 who entered the Navy are stationed.

"Most of us ended up on ships. Dr. Wayne L. Heath is the Dental Officer aboard the USS Geo. Clymer, APA-27, Flag Ship of our Division. I am aboard the USS Talladega, APA-208, in that division. Dr. W. Pat Kelly is aboard the USS Magoffi, APA-199, operating out of Long Beach and now on duty in the Western Pacific. Dr. Robert Stetzel is stationed at the San Diego Marine Recruit Depot here in California. Dr. Ed Lawton is on a cruiser, sorry I don't know which one, and is at present operating in the Mediterranean Area. Dr. Thomas Garman is also in the Navy, but I don't know where he is stationed.

Wayne and I are living here in San Diego in adjoining bungalows in Clairmonte. His is 4775 and mine 4777 Pocahontas. Bob Stetzel is living at 2105 Reed in the Pacific Beach section of San Diego. We'd all be glad to hear from some of the guys who have set up practices back home.

"We are now in our second week of Individual Ship Operations at sea. Wayne's ship just finsihed theirs last week. We get to go home on the week ends though. Wayne and I are leaving for the Western Pacific in late summer. Stetzel is expecting orders to sea duty soon, so that will make 100 per cent of us from our class working in floating dental offices. It really gets sporting when the seas are rough until you get the knack of rolling with the patient in the chair. I'll probably have to have my chair mounted on a rocker when I get home. In case some of the boys at school might be interested, sea duty is now for a period of two years instead of one as it was when we came in last summer. They changed it after we got aboard.

"Good luck to everyone. Write if you get a chance, to Dr. Thomas P. Tanner, LTJG (DC) USNR, U.S.S. Talladega (APA-208) c/o Fleet Post Office, San Francisco, California."

Dr. Robert Vinzant reports a change of address to the following:

Dr. Robert D. Vinzant, 04022628
5016ASU Dental Unit
Camp Crowder, Missouri

My sincere apologies to the Class of 1937. Space would not permit inclusion of their addresses at this time, but we promise to have them in the January, 1955, issue.

*This information was copied from statistics prepared by the Council on Federal Dental Services, American Dental Association.

LIBRARY

(Continued from page 17)

gist is confronted with shadows which need explanation. This book, which is written both in English and Spanish, makes an outstanding contribution in this direction.

There is no text to this volume. It consists of the extra-oral radiographs most frequently used—lateral jaw, lateral headplate, antero-posterior views of the skull, and views of the temporomandibular joint. The shadows produced in the radiograph are traced and numbered in a sketch on a page opposite the radiograph. Beneath the sketch is the explanation of the numbers. Radiographs other than those of the head and neck are also illustrated and treated in the same manner.

The cuts made from radiographs used in the book have reproduced very well.

James F. Matlock

CONDUCTION ANESTHESIA. George Philo Pitkin. Lippincott, Philadelphia, 1953. xxi, 1005 pp. 585 illus. 2d ed. $22.50

Although this book is primaily edited for the physician, surgeon, anesthetist it also has a few chapters of value to the dentist and the oral surgeon. The book is presented in sufficient detail to serve as a good reference for the anesthetist and the surgeon desiring to use local anesthetics. Technics are excellent to the extent of covering nerve blocking for conduction anesthesia for use both operatively and therapeutically. This book contains very little information which would be of great value to the practicing dentist or oral surgeon; however, the chapters indicated below would be of much interest.

First chapter presents the erroneous concepts of conduction anesthesia which have been printed in textbooks for many years. These concepts have been proved incorrect during the past few years due to the knowledge of anatomy gained through research and experience.

Chapers two, three, four and five constitute a reference work on the anatomy of the vertebral canal and the nerves contained therein, from the standpoint of the anesthetist using conduction anesthesia. In these chapters there are many very good drawings which demonstrate the anatomy of the nervous system.

Chapter six presents an excellent discussion of the clinical pharmacology on the local anesthetics used.

Chapter seven is a complete discussion of the fundamentals of conduction anesthesia.

Chapters eight to nineteen give detailed instructions with a very excellent accompanying illustration pertaining to the technic producing conductive anesthesia for practically every area of the body. These various technics cover blocking; nerves of the head, including the trigeminal nerve, the cervical plexus, the brachial plexus and the intercostals; also nerve to the visceral and extremities. The discussion of extraoral and spinal anesthetic technics in this chapter is good. This discussion on the therapeutic use of anesthesia is also commendable.

Chapter nine is of particular interest to the oral surgeon, the dental intern, and the oral surgery resident, pertaining to blocking the trigeminal nerve giving the technic for extraoral injections. This discussion of extraoral technic is excellent, one, that in the past has not been too complete as herein covered and should be thoroughly studied by anyone wishing to do anesthetic technic of this nature or alcohol injections of similar nature. The discussion on dental anesthesia in this chapter is not so precise as the one described in dental texts; the technic has some variations, particularly pertaining to the mental foramen injection blocking the mental nerve, but is still of interest to the dentist to see the general fundamentals so given herein.

Chapter twenty discusses the cause, prevention and treatment of the many complications arising from conduction anesthesia. The coverage in this chapter is so complete that it well merits being read and studied by all dentists and dental students.

Basically to have so complete a coverage in the complete field of anesthesiology as given in this book merits the highest compliments of all interested in the subject of preventing pain and making our patients more comfortable with the highest degree of safety to them. *R. S. Ping*

ANTIBIOTICS. Pratt, Robertson, Jean Dufrenoy. Lippincott, Philadelphia, 1953. 398 pp. 87 illus. 2d ed. $7.50

The antibiotics discussed are as follows (with the grouping together as indicated):

Bacitracin, Subtilin, Tyrothricin
Streptomycin, Dihydrostreptomycin
Viomycin, Neomycin and Polymyxin
Chloromycetin, Aureomycin, Terramycni
Erythromycin and Carbomycin
Penicillin

A chapter is justly devoted to mixed antibiotic therapy, antibiotics with other chemicals

and the indications and contraindications given. The strains that are synergistic and those that are antogonistic are stressed.

A chapter, of special note, with a public "educational flare" is the one covering "antibiotics in Dental Practice and Oral Surgery" (reprints of this chapter would be well advised in all dental offices). Minimum dosages with specific indications are stressed in the same manner as taught here.

Antibiotics for use in agriculture including veterinary uses and plant pathology are excellently described.

Problems of resistant strains, dependent strains, cross resistance and curtailment of these developments in micro-organism are thorough as is the writings on some of the social and economic aspects of the antibiotics.

The authors of this book deserve much more praise and compliments than we of the professions can give. Their writing is easy to read, understand and "even enjoy"! To say this work is complete to date is an understatement. This is manifest in the thoughtfulness of the writers to inclose in the appendix discussions and again the schematized structures, (so well done in this book) covering antimicrobial substances from chlorophyllous plants and animals.

This book is as complete a work on antibiotics as can be possible. With the race going on, perpetrating advancements in the production by the various pharmaceutical companies, the stability of knowledg of these agents is continuously "in the balance." To be fully informed "today" means little, unless the practitoner keeps abreast of all the current research and clinical reports to prevent prescribing obsolete drugs "tomorrow."

Beginning, as all scientific study should, this book covers a very comprehensive hsitory of the development of these drugs. The sources, identification, indications and dates of discovery up to 1953 (the publication date) of the antibiotics is adequately covered via charts, discussions and suggested reading for each section made by the authors.

The significance of fields of diffusion, concept of threshold and optional concentrations and basic interpretation of these are well written.

The discussion of chemotherapy and antibiotics is interesting, giving the requisites for the ideal antibiotic from both the industrial and clincal point of view. The problems of fermen-

tation through screening and assaying, extraction and purification, are taken up in such manner as to make the reader appreciate the "finished" drug in an entirely different way.

The types of natural penicillin with the characteristics of five common ones their structural formulas, biosynthesis, potency, incorporation precursors with corresponding groups are all intelligently explained. Factors influencing antibacterial action including sensitivity, one number of pathogens in relationship to the pH of themedium, inhibitors and activators are dealt with in such detail as to be a good lesson in pharmacology.

Information regarding the chemotherapeutic use of the various antibiotics is thorough, including methods of administration, dose form, rate of excretion and destruction and the factors affecting renal function. Graphs and structural formulas are again very good.

R. S. Ping

Postgraduate Courses in Crown And Bridge for Coming Year

A series of courses are to be offered during the coming year by the Crown and Bridge Department. The annual refresher course will be given October 18-22. On November 3 an afternoon of laboratory demonstrations will be offered to the technicians who took the course given in 1953. A tentative date for a symposium on hydrocolloid technics has been set for November 10. A series of afternoon lectures and laboratory exercises for technicians devoted to indirect techniques will be given during February and March. An all-day symposium is scheduled for April 6 and a postgraduate course in the indirect technique with emphasis on bridge construction will be given the week of April 25.

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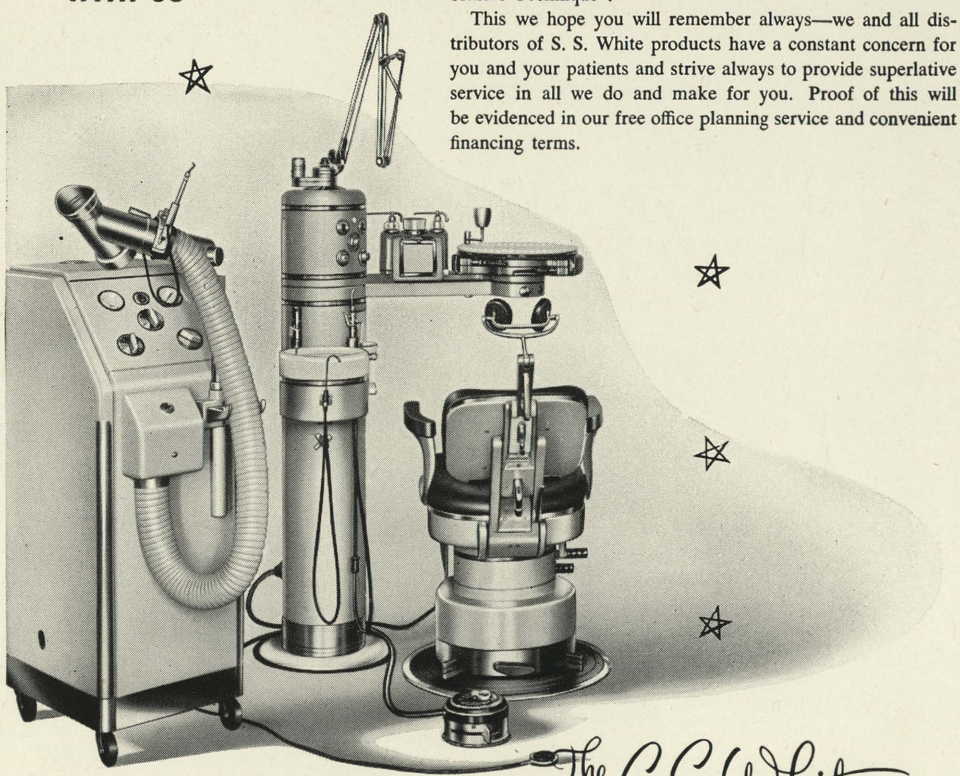

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