ALUMNI BULLETIN

Indiana University School of Dentistry

VOL. V

OCTOBER, 1942

No. 1

J. Frank Hall Appointed To I. U. Staff

Dental School Now has Full Time Professor of Oral Surgery

Indiana University School of Dentistry announces with a great deal of satisfaction the appointment of a full time teacher in the position of Professor of Oral Surg-

Dr. Hall was born in Quaker City, Ohio, April 1, 1899. With academic training in Muskingum College and the University of Pittsburgh where he received his Bachelor of Science Degree, Dr. Hall studied dentistry and received his



Doctor of Dental Surgery Degree at the School of Dentistry, University of Pittsburgh.

Since his graduation from the School of Dentistry, Dr. Hall has continued his training in postgraduate work at Pittsburgh and Northwestern Universities in Oral Surgery and as a Fellow at the University of Rochester in Dental Research-Pathology.

Dr. Hall comes to us from the Medical College of Virginia where he has been teaching exodontia, anesthesia, and oral surgery. While there, he was responsible for the (Continued on page 2)

ALUMNI OFFICERS AND OFFICERS-ELECT



The officers of the Alumni Association pictured above at the are from left to right: Dr. John W. Geller, Vice-President, Indianapolis; Dr. T. C. Smiley, President-Elect, Washington; Dr. S. X. Pallardy, Secretary-Treasurer, Indianapolis.

Annual Alumni Meeting Held on I. U. Campus

On Saturday, September 26th, the Indiana University Dental Alumni Association held its first meeting on the Bloomington Campus. The program for the day consisted of speakers on dental subjects for the dentists and special entertainment in the new auditorium for the wives and friends. In the afternoon the football game with Butler was for ev-

The meeting opened at 10:00 A. M. The dentists went to the Medical Building and heard two splendid talks by Dr. I. Franklin Miller of Pittsburgh on "Acrylics" and Dr. Cecil Bliss of Sioux City, Iowa on "Economics".

The ladies went to the Auditorium where they saw "skits" from forthcoming attractions at the university and rehearsals of a radio

At noon both groups assembled in the Union Building for a splendid luncheon. There were short talks by President Wells, President Ross of Butler, Dean Briscoe, Coach "Bo" McMillin, Dean Crawdent, Dr. T. Charles Smiley of entertained.

Washington. The trustees of the University were introduced also. Dr. J. W. Huckleberry, President of the Dental Alumni Association, presided

At two o'clock, all were present at the "kick off" of the football game between Indiana and Butler which, as you know, was easily won by Indiana, 53-0.

Several members and wives spent the evening and night preceding the meeting at McCormick's Creek State Park where they were entertained by "Newt" Campbell of Gary with some interesting motion pictures. They also reported wonderful surroundings with good food and quarters.

In spite of these days of rationing there were 150 present at the noon luncheon, and it certainly will be regrettable if the war should continue long enough to cause postponement of such a meeting for the coming year.

"Dixie" Heighway and Mr. Claude Rich of the University Alumni Association left no stone unturned to see that the Dental ford, and our new Alumni presi- Alumni Association was royally

Dr. Timmons Accepts New Post At Temple U.

Indiana University School of Dentistry Proud of the Honor Bestowed on Alumnus

Dr. Gerald D. Timmons was appointed Dean of Temple University School of Dentistry and began his duties September 1, 1942. His many friends in Indiana and Indiana University School of Dentistry wish to congratulate him and wish him every good fortune in his new position.

Temple One of Oldest American **Dental Schools**

Temple University School of Dentistry came into being in 1907 when the rapidly growing university took into its fold the Philadelphia Dental College. Philadelphia Dental College was chartered by an act of the Legislature of Pennsylvania in the spring of 1863 at which time there were but three other dental schools in the United States. Since that time the school has grown to a place of high respect under the leadership of such men, to mention but two, as the outstanding surgeon, James E. Garretson, after whom Garretson Hospital was named, and I. Norman Broomell, scientist, author, and educator. To be chosen to fill such an important post is an honor of high order.

New Dean Well Known Locally and Nationally

We feel that Jerry, as the new Dean is known to us, will more than fulfill the expectations Temple University had in making this appointment. The competent manner by which Dr. Timmons has served in responsible local and national positions is an indication of the way in which he will lead Temple University Dental School. Again we offer congratulations, Jerry, and every good fortune.

ALUMNI BULLETIN

School of Dentistry Indiana University Indianapolis, Indiana

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> Editor-in-Chief HARRY J. HEALEY
> Research Editor
> VIRGIL D. CHEYNE

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The Dental School Library

The following books have been added to the Library since June

Allen, Holtman & McBee: Microbes which help or destroy us. 1941

American Dental Association: Dentistry as a professional career.

Asgis: Professional dentistry in American Society. 1941

Blair, Moore & Byars: Cancer of face and mouth. 1941

Boyd: Outline of physical growth and development. 1941

Boyle: Fractures of the jaws. 2nd

ed. 1942 Carlson & Johnson: Machinery of the body. rev. ed., 1941

Comroe, Collins, Crane: Internal medicine in dental practice. 1942 Dorland's American illustrated medical dictionary. 1942

Goldzieher: Endocrine glands. 1939 Gould & Pyle: Anomalies and curiosities of medicine. 1937

Gray's Anatomy of the human body. 24th ed., 1942

Greenwood: Glossary of metallographic terms. 1941

Gregory, Broadbent, Hellman: Development of occlusion. 1941

Hawley & Carden: Art and science of nutrition. 1941

Kitchin, Paul C.: Laboratory manual for dental histology and embryology. 1939

McClung: Handbook of miscroscopical technique. 2nd ed., 1937 Marie: English, German, French,

Italian, Spanish Medical vocab-

Moulton (ed): Flourine and dental health. 1942

Prinz, Rickert & Dobbs: Pharmacology and dental therapeutics. 8th ed., 1941

Robertson: Radiology physics. 1941 Smith & Helwig: Liquor, the servant of man. 1940

Spencer: Prevention of malocclusion. 1941

Stockard: Genetic and endocrine basis for differences in form and behavior. 1941

Storz: Some early dental history of Worcester. 1941

U. S. War Department: Dental technicians. 1942

Wolf: Endocrinology in modern practice. 2nd ed., 1940

Children's Clinic Has Busy Summer

More Patients Available for Clinical Instruction

During the summer months of past years, many valuable clinical cases have passed through the Pedodontic Department without being utilized to the best advantage for teaching because of the vacation period with its resulting absence of dental students. This has long been a problem in both instruction and service because during these months it is easy for children to be present for treatment with plenty of time, but there has been insufficient student personnel available for supervision and adequate care of such cases. As a result many cases have been held over until fall and many of them failed to get adequate treatment at the correct time and some failed to return for treatment.

With the accelerated program in operation during the past summer and with larger classes, there were plenty of students present to afford routine instruction and service for both student patient. The improved general economic conditions of the families from which our patients come have likewise increased the number receiving treatment.

These factors have made possible a continuous flow of clinical material of all types which has been utilized with considerable success in the teaching of the numerous types of operations necessary to train students properly in the field of Pedodontics. Valuable experience has been gained by the student in the care of pits and fissures, incipient caries, irritated and infected pulps, and general restorations for children's teeth.

had more varied operations than ever before in their training.

Additional Small Castings Suggestions Offered

Proper Position of Wax Pattern During Investing Stressed

In the consideration of various casting problems, there is one which is too often overlooked by the dentist. It is the problem of the correct position of the wax pattern in the casting ring.

Let us, for illustration, assume that a large M. O. D. pattern is to be cast. If it is placed in the ring, not lined with asbestos, in a horizontal position, or so that the mesio-distal expansion is toward the sides of the ring, the resulting casting will be too small. This will be found true, regardless of the percentage of expansion in the particular investment. The reason is that the metal casting ring does not expand as greatly as the investment and therefore tends to confine the expansion of the investment so that it will not reach its maximum amount in that direction. Naturally the mould must have maximum expansion in that direction if the casting is to fit

This problem can be solved in either of two ways. One method is to line the ring with thick asbestos (% inch). This asbestos tends to act as a sponge between the investment and the ring and thus permits freedom of expansion in the investment. The other solution is to sprue the pattern so that it will lie in a vertical position. Then the meiso-distal expansion will be toward the unconfined ends of the ring. The expansion gingivo-occlusally will naturally be confined by the ring when pattern is in this position; however, unless the walls are exceptionally long, this will not alter the subsequent fit of the casting since the expansion needed in this direction is relatively small.

On some occasions the confining action of the ring may be used to advantage. For example, often three-quarter crowns on anteriors may be a little loose but can be easily made to fit tighter while using the same investment. The pattern is sprued so that the meiso-distal expansion is toward the sides of the ring and the asbestos liner is omitted. This will decrease the expansion in this direction and the resulting casting will fit snugly on the preparation.

Therefore, on all castings, after ulary. 1939

Morris' Human Anatomy. 10th show that both junior and senior level of expansion has been chosen, the factor of the position in the ring must be considered in connection with the use of an as- of Dental Materials.

J. Frank Hall

(Continued from page 1)

development of an outstanding dental clinic in the hospital. The record he made at Virginia eminently qualifies Dr. Hall to assume great responsibilities in his

Dr. Hall has conducted research in the healing of bone tissue under normal and various pathological conditions, the reactions of various general anesthetics used in the practice of dentistry, the reaction of sulfanilamide in tooth sockets, and many problems relating to this specialized field. His contributions as lecturer, writer, and investigator and his skill as an operator are recognized by membership in the American Society of Oral Surgeons and Exodontists, the Association of Military Surgeons, and the Virginia Academy of Science. Dr. Hall's interest in research and publications have made him a member of the International Association of Dental Research and Business Manager of the Journal of Dental Research.

Dr. Hall began his work in Indiana on August 1st, and since that time he has gained the respect and admiration of all with whom he has come in contact. Indiana is indeed fortunate to be able to attract a person with the background, ability and personality possessed by Dr. Hall, and we are sure that his influence in the Oral Surgery Department will carry it to real distinction.

Dr. W. V. Hanson Assigned To Naval Hospital

Dr. Warren V. Hanson, a member of the faculty of the school of dentistry since 1927, has recently volunteered his services to the United States Naval Reserve and has been commissioned as Lieutenant Commander. He has been assigned to active duty at the Naval Hospital, Philadelphia, Pennsylvan-

Dr. Hanson, who was Associate Professor of Prosthetic Dentistry at the time of his enlistment, has taken part in the teaching of prosthetic dentistry during the past fifteen years.

The administration and the faculty consider that the loss of Dr. Hanson from the faculty is more than compensated for by the invaluable service and aid which he will render to the Navy in this wartime emergency.

bestos liner and the degree of expansion desired.—Submitted by Mr. Ralph W. Phillips, Department

Zinc Oxide-Eugenol in Operative Dentistry

The silicate cements are relatively easy to place and in many instances have a better appearance than other types of materials. This ease of manipulation and esthetic value, however, has in many instances been most unfortunately offset by pulp death following its use. Pulp death occurs in only a small percentage of the teeth; however, when it does occur, it usually takes place in young individuals and in the anterior teeth of these youngsters. The loss or discoloration of teeth in the front of a young person's mouth is a vision that no practitioner cares to consider. The usual explanation for the death of pulps under silicate cements is that the pulp absorbs through the dentinal tubules ortho phosphoric acid used in the manipulation of the cement. It is claimed that the absorbed acid is in that case irritating enough to cause final pulp destruction.

There are two points with respect to the above explanation, which, if given serious attention, make it appear dubious. First of all, it must be remembered that one does not fear pulp death under temporary fillings or cavity linings made with copper or oxyphosphate cements. In fact, they are in many cases used by clinicians to avert possible pulp damage. Yet, these filling materials contain the same liquid orthophosphoric acid supposedly so deleterious when incorporated with silicate cement powders. Why is it, then, that the same liquid is suspected in one case and not in others? Secondly, in large clinics where types of fillings other than silicate cements are more often used in young anterior teeth, one will find pulp damage occurring in a similar percentage of cases. This last reason would of course still further refute the idea that a particular material is responsible for pulp injury. These points and actual experiments have led this author to believe that pulp damage or destruction in the anterior teeth of young individuals is due to the trauma which is necessarily created during the cutting of the cavity and not because of an irritating chemical absorbed from the filling material inserted. The remainder of this discussion constitutes an attempt to justify this conclusion.

large; so are the dentin tubules ed odontoblasts. These inflammaboth large and numerous. Since tory changes are then followed by cutting any cavity into dentin al- destruction of odontoblasts. The is evident. Pulps beneath the Huysen, Department of Oral Diagways damages the protoplasmic ex- destruction of the protoplasm in floor of a cavity must be permitted nosis.

dentinal tubules, any cutting of the dentin constitutes a pulp exposure. Because of the relative thinness of the proximal surface dentin, pulp damage is much more severe from cavity preparation using that approach than it is using the occlusal approach. What would be a safe depth as assessed from an outside view of the tooth in the case of occlusal surface operations sometimes becomes a near clinical exposure in an operative approach to the proximal surface of the pulp.

The cutting of proximal surface cavities in the teeth of young dogs followed by the histological study of the tooth tissues has shown that damage to the pulp is due to operative procedures. Twentyfour to forty-eight hours after the preparation of a deep cavity (half way or more through the dentin) the first change takes place in the pulp and not in the odontoblastic area. It must be remembered that the cutting takes place in the dentin at a distance from the pulp, yet the first evidence of tissue change occurs in the small vessels of the pulp proper. It occurs in that part of the pulp which is opposite the floor of the cavity in the dentin. Following the appearance of hyperemia and edema one sees leucocytic infiltration. These changes are later followed by disruption of the odontoblastic laver with destruction of odontoblasts. Much later secondary dentin is deposited and the inflammatory picture slowly subsides. The secondary dentin forms a patch over the pulp end of the cut tubules. No scar tissue is found in the pulp. The final pulp picture is one of atrophy rather than scar tissue formation. The experimental work accomplished by cutting cavities in dogs' teeth showed that pulp damage due to cutting, when properly protected, heals in about two weeks. It also showed that it takes about 40 days for the healed pulp to lay down a 0.1 mm. layer of secondary dentin.

When the cavity cut into the dentin is deep, the above mentioned histological changes take place in the sequence given whether the cavity is filled or remains unfilled. This is also true in spite of the material with which the cavity is exposure, either microscopically or

tensions of the odontoblasts in the the cut tubules could liberate toxic protein; that is, histamine like substances, which in turn, being absorbed by the odontoblast and the pulp could, as it does in other tissues, call forth a typical inflammatory reaction in the tissues containing vascular elements.

> From experimental work done in this country, in England, and in Switzerland, both on human and dogs' teeth, there is apparently one means of allaying or preventing the inflammatory changes in the pulp following deep cavity preparation. This preventive procedure consists in the placement of a zinc oxide and eugenol base or filling into the cavity as soon after cavity preparation is completed as is possible. According to the experiments performed, this procedure ameliorates and sometimes prevents inflammation of the pulp. What this factor is, whether the eugenol or the zinc oxide is the effective agent, has not yet been determined.

Of course it is imperative that an insulating material be placed between the metal and the cut dentin to prevent thermal shock to the pulp following the insertion of metallic filling material. Oxyphosphate of zinc cement will provide for such an insulation. However, since this material will not correct the damage done during the cutting of the cavity and in as much as zinc-oxide and eugenol will bon. President both insulate and protect against pulp damage, the latter material is to be recommended for cavity bases. Where crushing strength is essential, a minimum of zinc-oxide should be supplemented with a covering of oxyphosphate of zinc

It must be remembered that zinc-oxide and eugenol in contact with a silicate cement filling will result in discoloration of the silicate cement. A varnish or oxyphosphate cement should be interposed between the silicate and the zinc-oxide and eugenol. In the event that it is not desirable to place a filling over a zinc-oxide and eugenol base, this material may be used as a temporary filling material, later to be followed by the proper base and filling.

Operations involving the dentin of the tooth merit more than mere consideration of the mechanical filled. The changes occur follow- priniciples involved. Dentin and ing the preparation of deep cavi- its pulp are vital biologic structies which show no evidence of pulp tures, and they respond like any other tissue when cut or operated clinically. There is no doubt that upon. Though the routine operathe first change is seen in the tion of cavity preparation may not In young teeth the pulps are pulp proper and not in the affect- result in clinical evidence of tissue change, the microscope, if it could be applied, would show that change

Student Body Elects Class Officers

Regulations University Followed

In accordance with regulations followed throughout Indiana University, the students of the three upper classes of the school of dentistry have recently elected their officers for the current school year. Competitions and rivalry which accompanies each annual class election was again in evidence this year.

University regulations require that the nominations for the officers of the three upper classes be made by petition signed by a required percentage of the individual class membership. These petitions must be submitted to the office of the dean previously to the day of election.

Election of the freshman class officers on the Bloomington campus was also held. Nominations for these class offices were made from the floor preliminary to the actual election.

The elections, held under the direct supervision of Dean William H. Crawford, resulted as follows:

FRESHMAN CLASS

Frederick DeVon Logan, Bour-

Robert Eugene Brazelton, Princeton, Vice-President

Riccamae Weddington, Logansport, Secretary-Treasurer

SOPHOMORE CLASS

Robert Makielski, Mishawaka, President

Harold Roth, Evansville, Vice-President

Edward Bromm, Evansville, Secretary-Treasurer

JUNIOR CLASS

William Micheli, Brazil, Presi-

Clark Scholl, Springfield, Ohio, Vice-President

William Fitzpatrick, Elwood, Secretary-Treasurer

SENIOR CLASS

Richard Young, Kokomo, Presi-

Eugene Yoder, Elwood, Vice-President

Sammy Starcher, Weston, West Virginia, Secretary-Treasurer

to repair themselves. Zinc-oxide and eugenol bases or a temporary filling of the same material should by all means be used to palliate the damage done during the cutting.—Submitted by Dr. Grant Van

New Librarian **Assumes Duties**

In assuming the duties of librarian for the School of Dentistry, Mrs. Helen Woerner Campbell is continuing her long association with Indianapolis and Indiana University.

Born in Indianapolis, October 17, 1918, Mrs. Campbell began her primary education in Lima, Ohio, but the greater part of her school years were spent in Indianapolis. After graduation from Arsenal Technical High School, she entered Indiana University as a scholarship student with aspirations toward becoming a certified public accountant, but her hours as a student assistant in the Main Library on the Bloomington campus convinced her otherwise, and in September, 1937, she became Assistant to the Order Librarian at Indiana University.

During Mrs. Campbell's four and a half years on the staff of the University Library, she had excellent training in all phases of library work, and because of the University's program of closer coordination among all departmental units under the Director of Libraries, Robert A. Miller, her experience on the Bloomington campus should prove very valuable. She has had extensive training in bibliographical and reference work and is thoroughly familiar with the University's system of ordering books and periodicals. material, excepting books and periodicals in which class assignments are made, is available through the Library's package loan service, and it is Mrs. Campbell's hope that she may be able to serve the alumni and friends of the school as well as the faculty and students.

Book Donation Made By Dr. B. K. Westfall

Dr. B. K. Westfall, prominent Indianapolis dentist, has recently presented the School of Dentistry with a collection of early editions of dental reference books, among which is a first edition of Hogeboom's "Practical Pedodontia."

Two of the volumes from this gift, the Transactions of the Illinois State Dental Society for 1911 and 1915, are of particular interest to the Library for they help to historical value. Early volumes of the dental societies are extremely difficult to obtain, and Dr. Westfall's gift is deeply appreciated.

Calcium Metabolism.

There is current a popular though incorrect saying that is used frequently and uncritically by both the medical and dental professions: "A tooth for every child." In the face of good evidence to the contrary, this saying has been strengthened through unquestioning reiterations which have led to irrational therapy.

The aphorism was originally based upon a number of erroneous concepts which have since been corrected by scientific investigations. The first of these is that calcium withdrawal is possible from the teeth just as it is possible from the bones. Since the bone acts as a storehouse of calcium to be drawn upon when the need arises in the organism, many men have placed the teeth in the same category, forgetting that, while the bone is a vital cellular structure, both enamel and dentin are avacular and acellular. fact, enamel is a dead structure not even having encapsulated within its substance protoplasmic processes (dentinal tubules) as does the dentin. Calcium withdrawal is made possible from the bone not through any mysterious process of decalification but by the process of resorption by osteoclasis. For this process to occur, the tissue must be vascular and cells must be in close approximation to it. These conditions obtain only to a very limited degree in the dentin and are absent in the enamel. In fact, physiologic resorption occurs only in the deciduous teeth. The fundamental differences between bone and teeth are completely disregarded in the concept that calcium withdrawal is possible from the teeth. There is no evidence to support this assumption nor any scientific mechanism to explain it.

The second misconception upon which the saying is based is that caries is related to calcium metabolism. The mechanism of this relationship is not made clear by any adherents to this theory, and none has been established. Caries is certainly not caused by an internal withdrawal of calcium from the teeth. Caries is a bacterial infection of the enamel and dentin and begins at the surface of the

The calcium needs of the mother are increased during pregnancy. The fetus is a parasite which lives complete a set which is of infinite upon the mother and obtains its nourishment directly through the blood stream, regardless of wether its dietary elements are ingest- in a relatively mild form (preg-

the mother's tissues. However, the total amount needed by the fetus is relatively small in relation to Pregnancy and Caries the total body calcium of the mother.

> The full-term infant weighing 3,000 grams contains approximately 24 grams of calcium. The average woman has 2,000 to 2,500 grams of calcium, of which 97-98% is within the bones and less than 1% in the teeth. The total calcium need of the fetus is therefore 1% of the mother's storehouse. Such a drain is not serious. However, for the safety of the general health of both the mother and infant, it is essential that the calcium intake of the pregnant woman be increased to a minimum of 1.5 grams per day.

Under various conditions 10 to 40% of the calcium is retained, so that during the last five months of pregnancy the mother retains at least the amount of calcium needed by the fetus. Usually an excess is retained and stored in the maternal reserves. There is no reason to believe that, except under severe dietary restrictions, the fetal calcium needs must be obtained from the maternal reserves in the skeleton. It certainly cannot be obtained from the teeth. However, since the alveolar bone which supports the teeth is the most viable of bone, it is possible that the alveolar bone might suffer first in cases where calcium must be obtained from the osseous structures because of a failure to absorb it by way of the gastrointestinal tract. Intraoral x-rays of pregnant women do not support the thesis that bone destruction is common during pregnancy. As a matter of fact, the literature does not contain any evidence that alveolar destruction is more common during pregnancy than at other times.

The relationship between pregnancy and caries has often been pointed out by both physician and dentist to the pregnant mother. As a result, she has come to expect the loss of a tooth or many teeth as an additional sacrifice which she must bear for her unborn child. Clinical investigations reveal the fact that caries is no more prevalent in pregnant than nonpregnant women of the same age. This does not mean that caries does not occur in pregnant women. But when it does occur to any unusual degree, it can almost always be related to the poor oral hygiene associated with the sordes and acid metabolites from the nausea and vomiting and with the general lassitude of the pregnant mother.

Gingival involvements do occur ed by the mother or taken from nancy gingivitis) during preg- group.

nancy, due either to the abovementioned local factors, or to the temporary endocrine imbalance. This gingival condition is neither serious nor difficult to eradicate and normally disappears after

While periodontal disease, especially alveolar atrophy, is theoretically possible during the pregnancy period, it is actually rarely associated primarily with the pregnancy and then only when other and more direct etiologic factors in the production of periodontal disease are present. The vague and uncritical use of "disturbed calcium metabolism" should not be invoked to "prove" any such hypothetical relationship.

There is no question that the pregnant mother should have good dental attention, but there is no reason to believe that she will nonetheless suffer unduly from dental disease as a result of her pregnancy. The incidence of caries and periodontal disease during pregnancy is no more nor less than during the non-pregnant period. The statement "A tooth for every child" is a dental myth.-Manuscript submitted by Dr. Isaac Schour, Department of Histology, University of Illinois College of Dentistry.

Dental Assistants Study Club Being Formed

School of Dentistry Facilities To Be Used

The Indiana University School of Dentistry has been asked to furnish lecturers and clinicians for a Study Club for the Indianapolis Dental Assistants Association. Many times the school has been called upon to provide lecturers and clinicians for dental assistants meetings, but this is the first study course and it sounds very interest-

The subject which the Study Club will take up at this time will be "Laboratory Efficiency" and it will consist of Dental Anatomy, Pouring Models, Investing and Casting Inlays, Waxing Models, Pouring Indirect Models, Acrylic Inlays and Jacket Crowns, and Composition of Materials.

This promises to be a very interesting course and we urge all dental assistants who would like to join this Study Club to do so. The class will meet at the school on Monday evenings from 7:00 to 9:00 p.m., and we extend an invitation to your assistant to join this