Osteopathic Digest (November 1936)

Philadelphia College of Osteopathy

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Education for the Individual

MASS INSTRUCTION IS KEPT AT A MINIMUM IN THE

Philadelphia College of Osteopathy

SECTIONIZING CLASSES INSURES EFFICIENT TRAINING

Entrance Requirements

THE preliminary education requirements for admission to the Philadelphia College of Osteopathy consist of the satisfactory completion of a two year’s course of study in an approved college of liberal arts and science or its equivalent. The two years of study must include English, 6 semester hours; physics, 6 semester hours; biology, 6 semester hours; chemistry, 12 semester hours, including an approved course in organic chemistry.

Write to the Registrar

Philadelphia College of Osteopathy

(Co-Educational)
IN RECENT years, popularity of the intensive campaign has fallen off: its place has been taken by an older and less spectacular form of money raising, the alumni fund. Oldest is the Yale Alumni Fund Association, established in 1890 with a view to soliciting from every alumnus an annual gift for general university use. During the last fifteen years the device has spread rapidly to other colleges. In 1931, 44 colleges reported that 465,456 alumni (19 per cent of the total number) had contributed $2,233,310 to their respective funds. Contributors ranged from 2 per cent of the alumni at the University of Chicago to 48 per cent at Amherst; the average contribution per alumnus was smallest at Michigan State ($3.69), largest at the University of Chicago ($70.73); the sums realized varied from $1,082.80 at Baldwin-Wallace College to $766,039.00 at Cornell University. All in all, the various funds present an amazing record of sustained giving on the part of the alumni, even during the depression years.

RALPH A. BEALS,
(Aspects of Post-Collegiate Education.)
Preliminary Requirements

O LONGER can a student step from high school to the Philadelphia College of Osteopathy. To be acceptable to our college now, a prospective entrant must have had at least two years of recognized academic training. The training must include English, six semester hours; physics, six semester hours; biology, six semester hours; chemistry, twelve semester hours, including an approved course in organic chemistry.

Voluntary increase of entrance requirements can mean only one thing. The Philadelphia College of Osteopathy is abreast of the time in osteopathic education. A Philadelphia diploma is predicated upon sound and thorough academic experience.

Graduate School

October 7, 1936, saw not one, but two classes in the post-graduate department of the College. Graduates taking advantage for greater latitude in New Jersey practice, are coming to Philadelphia for the post-graduate training. Two years of such training is required. A new class starts, the other class resumes. The classes for graduates are held on Wednesdays and Saturdays and the subjects offered (as prescribed by the New Jersey law) include the following groups: Therapeutics; Obstetrics and Gynecology; Surgery (General and Special); Hygiene and Sanitation; Roentgenology; Pathology and Bacteriology; Pediatrics; Medicine (Practice); and Electives (Other Subjects).

Museum

Like an ivy plant nurtured by supporting elements, the newly formed museum is growing along the walls of the College auditorium. Already completed along the rear wall of the auditorium, new sections of the museum are being placed along the side walls. Those who have seen the museum will tell you that the display is not an ordinary one. It does not consist of the common wobbly cabinets with dusty shelves holding the ordinary specimens from a pathology department. The cabinets, made of mahogany are fixed, are stationary, electrically illuminated and in general are of the most modern design and craftsmanship. The exhibits aim to teach. Series of this and that tell a story. It is well worth the time of every visitor to the Philadelphia home of study, to spend a goodly portion of their visit in the College Museum.

Student Health

An orderly society is interested in the welfare of its individual members. A modern college is concerned about the health of its students. For a number of years the Philadelphia College of Osteopathy has maintained a student health department. Probably student health service would be more apropos—for service is more descriptive of the work of the department. Not only do students report to the “student health” physician when symptoms annoy, not only do assigned physicians call upon the sick, not only do hospital student cases receive regular care but the service has been expanded to the point where illness prevention is the goal to be attained. Entering students are given a complete physical examination. The examination includes an oral examination by the college exodontist. While it is somewhat soon to make authentic reports, it appears that the number of student cases of illness are being materially reduced. It’s the ounce of prevention . . . and the student health service is working upon that ounce.

Technic

By their technic shall ye know them. The osteopathic public learns of osteopathy largely through the technic employed by the osteopathic profession. Logically, it follows that the teaching of technic in an osteopathic institution is of paramount importance not only to the students but to the profession generally. The technic department, in addition to being a vital phase of osteopathic instruction, is also, in a sense, a publicity agency.

To insure the maximum efficiency in the teaching of technic, the Philadelphia College of Osteopathy employs a department of twelve men. Mass instruction is taboo. Small group teaching is in effect. Twice a week these twelve men rise anywhere between 7 A. M. and 7:30 A. M. in order to meet their groups of eight students for technic instruction. Each instructor knows each student in his group, knows his habits, knows his peculiarities, knows his weaknesses and above all, knows how to correct his tendencies so that proper technic will be the armamentarium of each student who is finally graduated from the institution. It’s the little things that count in life and it’s the small groups in technic that make the efficient osteopathic physicians.

Practical

The practical man is the one who applies his knowledge. Applied osteopathy is osteopathic practice. To effectively prepare students for the efficient application of osteopathy during life, the College must offer every opportunity for practical experience.

Here in Philadelphia, the College fulfills this requirement through the conducting of a large general clinic.
The clinic is the osteopathic laboratory for the maturing undergraduates. The textbook offers theory, the clinic offers practical material. Both are essential and both are relied upon at the Philadelphia College of Osteopathy.

Active clinical training is afforded during the Junior and Senior years for all students. Clinical material for these students is varied. It gives the student his first impression of the chronic patients who will visit him professionally. It shows the student the need for consultation, the necessity of calling in specialists. It presents the naked and deformed spine, a living spine for practice. Students can practice the things they preach.

Hospital
Primarily, the Osteopathic Hospital of Philadelphia is a teaching unit. The service it renders to a suffering people is not easily differentiated from the service it renders to the learning, future osteopathic physicians of the community. Our Hospital is amply equipped to carry on with both these services. The volume of hospital cases together with the diversity of afflictions places at the disposal of the Philadelphia College of Osteopathy a mighty educational force. Because of the increased volume of hospitalization of a surgical nature, the surgical clinics are now presenting a maximum of practical material to all students.

The Hospital amphitheater is a theater of kaleidoscopic scientific panorama, the teaching value of which cannot be evaluated by ordinary methods of accountancy.

Digest
The word "digest" means to simplify. The OSTEOPATHIC DIGEST is beginning to live up to its title. It has been including a scientific supplement, in which there is presented descriptive, informative and polemic material designed to be of assistance to the osteopath. It is to be in the "digested" form. Men and women who know will be requested to write. Scientific data furnished by diversified but reputable agencies will be divorced of its apparent osteopathic isolation and corralled within the osteopathic concept. Scientific collaboration between various departments in an attempt to simplify contradictory scientific evidence is also the plan of the newly inaugurated supplement section. Scientific discussions, symposia, abstractions of new knowledge, will be the result of expansion of the supplement section. It is the editorial policy of this publication to develop the department of scientific supplementation in direct proportion to the interest aroused by the readers.

Faculty
Publicity is not acquired conscientiously. It is the fruit of intelligent living on the part of the men and women in the profession. An educated man is his own publicity agent. He speaks—he is heard. The repercussions follow. If that educated man is connected with a college or university, the institution shares in the good will established by the individual.

A faculty can lift an institution to heights of glory or it can plunge it into oblivion. The faculty of the Philadelphia College of Osteopathy, like time, "is marching on." Our faculty is appearing before an increasingly larger number of groups, assemblages of scientific men, congregations of physicians, schools of the learned, and clans of fraternal and social orders. Each engagement brings flattery to the college. Each talk is of mutual benefit to the group listening and to the college furnishing the speaker.

During the past academic year and well on into the summer, the faculty of the Philadelphia College of Osteopathy has been actively engaged in a speaking tour about the country. Through the middle west, into the southlands and up to the New England States, our men have gone to help others. Not for personal gain but unconsciously to spread the theme of the Philadelphia College of Osteopathy—applied osteopathy.

Library
The College Library acquired several dozen new books since the opening of college in September. The latest edition of the Encyclopedia Brittanica has been purchased. In general, book publishers have been generous in their gifts of copies of new books to the library. Many of the books that are in great and general usage are being rebound to withstand another season of vigorous quest for knowledge. When the librarian has fully ascertained the actual needs of the various college departments, the funds provided by the graduating class will be utilized for the purchase of many new volumes. The librarian says "The end of the college year will show a great increase in volumes and interesting material on our book shelves."

Equipment
A college catalog cannot convey the extent to which an educational plant is equipped. For this reason, the College favors visitation by interested parties. A casual visit to the College this year will reveal a pronounced augmentation in the total equipment. Microscopes, the eyes of scientific
search, have been increased in number in keeping with recent requirements. Microscope accessories together with hundreds of prepared slides have been furnished the various laboratories. A new clinic camera for the use of photographic recordings of clinic and hospital teaching cases has been purchased and will be put into operation under the supervision of the director of clinic. Colorimeters, potentiometers, met abolors, projection devices, cinematographic supplies (including films), latest units of scientific glassware, all these (altogether too boring to enumerate completely) are now in use. Only a visit to your College will act as a lasting revelation as to the extent of today’s equipment.

Research

First necessity is a thorough understanding of the routine fundamentals of any science. Then, and only then, comes an urge to investigate for latent truths, a yearning for unlearned knowledge. This is research.

Every established endeavor sooner or later spends time and funds on research problems—organized research. For over a year, the Philadelphia center of osteopathy, your College, has maintained a separate and distinct department of osteopathic research. Research is slow, discouraging to ordinary men, worthless to the uninstructed and yet productive of much good to those qualified to comprehend. Research departments cannot make sensational reports. Their work must be scientifically accurate, self-critical and done purely for science and not for immediate application. Our research workers are at present engaged in investigating postural factors in osteopathic lesions. Other departments are conducting research into questions more aptly pertaining to their own fields. The department of chemistry is obtaining data on the hydrogen ion concentration of gastric specimens under various conditions, on blood viscosity and on comparative value of clinical tests.

A college is duty bound to impart established knowledge. It has another function. To develop new knowledge and to disseminate such new knowledge among the people of the earth.

Alumni Cooperation

With alumni participating in every phase of College life—interesting prospective students in the Philadelphia College of Osteopathy,—giving time and thought to the problems of the College, bringing practical lectures to the students, contributing to the Annual Giving Fund—the cooperation of alumni reached a new high during the year 1936.

A Headline to be Written

P. C. O. Alumni to the number of 1,000 became actively interested in the future of the College through contributions to the Endowment Fund, and thereby brought the unusual distinction to the Philadelphia College of Osteopathy of having the highest percentage of alumni contributors of any institution in America.

WON'T YOU HELP MAKE THIS HEADLINE COME TRUE?

RUSSELL C. ERB.

FACULTY HOLD IMPORTANT MEETING

OFFICIAL resumption of academic activity concurred with the reconvening of the College Faculty at their first monthly meeting on October 6, 1936.

The presiding officer, Dean Holden, outlined the topics under consideration. He presented a report of the recent college inspection, authorized by the American Osteopathic Association. Reading excerpts from the report of the inspector, Dr. Holden commented on the needs of the institution, stressing those needs which were emphasized in the inspection. Commendations were made on the degree of association between College and Hospital reacting as a distinct benefit to the students. Professor Erb spoke on the value of student criticisms. Two actions may be taken; the first, that of disregarding the second, a serious consideration of student criticism for their motivation value in pedagogical improvement. He stated that 85 percent of our present student body has had definite college experience elsewhere, that the average entrance age is higher and the students of today expect far more than during the time that we welcomed “dribbling puberty” as Freshmen. He also asserted that our students today are attending our educational program at a greater personal and financial sacrifice than in former years—even to the extent, in some instances, of mortgaging property.

The Registrar, Dr. Green, reported on registration statistics of the new Freshman class. He spoke briefly of the new entrance requirements and the quality of the students in the future. Student character and student ability are topics of vital importance in the satisfactory understanding of student problems from the Registrar’s standpoint.

Dr. Fischer was asked to speak on the operation of the clinic and outpatient department. He stressed the importance of the additional clinic hours which have been arranged for by Dr. Holden. “With the matriculation of classes of graduates,” he stated, “we must expect concern on the part of the undergraduates for the available facilities for their instruction. As they involve clinical teaching, the curriculum and opportunities of the undergraduate must not be sacrificed or even affected by the graduate school program. The same or better facilities must be maintained for the junior and senior classes and others created for the post-graduates.”

Dr. Gerdine, past-president of the Los Angeles College of Osteopathy, was presented to the faculty. Dr. Gerdine, who will be associated with the College in the capacity of lecturer and as a Clinical Psychiatrist in the Graduate School, responded with a brief and impromptu talk.

Dr. Holden placed special emphasis on the already initiated Endowment Fund and offered valuable suggestions as to how each member of the faculty could and should assist in this gigantic task.

The Dean requested each department head to call a meeting of his department every month and to stand in readiness to report at the general faculty meetings.

After the usual announcements and discussions, the meeting was adjourned.
An Osteopathic Consideration of Certain Factors in Referred Pain*

FREDERICK A. LONG, D.O., M.Sc. (Ost.)

Professor of Principles of Osteopathy, Director of Osteopathic Research

PAIN is often the only complaint which sends patient to doctor and pain in the back is often the difficulty which prompts many patients to go to the osteopathic physician for the first time. Many are the processes and diseases which can initiate painful reactions, and they include both somatic and visceral locations. The differentiation between pains of visceral origin and those of somatic production is admittedly one of the most important elements in the diagnostic approach to many cases. The burden placed upon the osteopathic physician in this respect is relatively great, for while he is aware that many pains are of visceral origin, he is also aware to a greater extent than the physician of probably any other school that alterations in somatic tissues may produce sensory manifestations which simulate visceral disease. So he is called upon to decide to what extent pain may be relieved by somatic manipulation alone. The decision upon a surgical or non-surgical approach may depend in large measure upon the proper correlation of diagnostic criteria having to do with sensory expressions. It is only upon a basis of knowledge concerning the anatomical and physiological relationships involved in referred pains of various kinds that proper evaluation of factors leading to exact diagnosis and differentiation can rest. All pains in the back are not the result of osteopathic spinal lesions, neither are they all visceral in origin. Pritchard has said that we often cannot see the back for the spine. I believe that we frequently fail to see the patient for the back.

It would seem advantageous to consider the somatic and visceral sensory phenomena, their interaction, the mechanisms and physiological processes underlying these phenomena, and the relation of all this to certain osteopathic principles and concepts. As with any other approach to functional activity, it is first necessary to comprehend the anatomical basis through which physiology is expressed, and as the subject being covered in this paper deals with both somatic and visceral nerve elements it is necessary that the relationships between these systems be made clear. For this purpose it is necessary to present certain embryological data which have a bearing on the anatomical relationship between the somatic and visceral nervous systems.

As the neural tube closes and separates from the layer of ectoderm above, certain cells become detached from both the neural tube and the ectoderm to form the ganglion crest. The cells of the ganglion crest develop into the peripheral nervous system. Certain of these cells take up a position posterolateral to the neural tube and become the dorsal root ganglia and form the great afferent system of the body. The peripheral processes of some of these cells develop outward with the spinal nerves to serve as receptor mechanisms for somatic impulses; the peripheral processes of others develop with the vegetative nerves to become receptors for visceral impulses. The peripheral processes of both the somatic and visceral afferent neurones travel uninterrupted courses from the dorsal root ganglion to their terminations. The central processes of the somatic and visceral afferent neurones enter the spinal cord over the dorsal nerve root, both split into ascending and descending branches, and both form associations with many other neurones in the central nervous system. It will be seen that the body has developed one great afferent system and placed its cells in dorsal root and homologous cranial ganglia, and that the peripheral processes from these cells transmit impulses from both the somatic and visceral zones. Histologically, the afferent neurones traveling with the two systems, somatic and visceral, are indistinguishable. There is, however, one difference between the central distribution of impulses carried by the two sets of afferent fibres; the impulses from somatic zones reach the conscious level while the majority of impulses from the viscera are thought not to go higher than the thalamic and subthalamic nuclei, and therefore do not reach levels where they can receive conscious recognition. It will be evident that there is otherwise throughout their central distributions a close association between the visceral and somatic afferent neurones.

The status of knowledge concerning visceral sensations and the referred painful phenomena accompanying certain diseases is not satisfactory at the present time. Much that is written on this subject is confusing because of the attempt to explain all phenomena on the basis of findings in one organ alone. Certain fundamentals forming the basis for current concepts may be established.

At the outset, the difference between visceral sensitivity and referred pain should be alluded to. Because the viscera and organs are deep seated and protected on all sides by a receptor system at the periphery of the body which has developed the capacity to react to various forms of chemical, mechanical, thermal, and electrical stimuli in the environment, they have no need for an afferent mechanism which will react to these ordinary external stimuli. Thus the viscera may be cut, pinched, burned, or otherwise stimulated in a manner that would produce sensation at the body surface and no sensation be felt. This does not mean that there is no afferent system supplying these visceral tissues, for the integration necessary for normal physiological activity and response in them is carried out largely through the medium of visceral afferent and efferent neurones. It does mean, however, that the

* Read before the Annual Review Course of the Graduate School, July 8, 1936.
receptor endings in these tissues do not respond to the same type of stimulation as those in the somatic tissues.

There is at present no uniformity of opinions regarding the existence of actual visceral pain. It is known that while hollow viscosa are insensitive to ordinary pain producing stimuli, they are sensitive to changes in the tension of their muscle coats and because of this Mackenzie holds that the process producing visceral pain is contraction of smooth muscle. Artificial distention of the stomach, esophagus, bladder, or rectum gives rise to sensations of fullness which are rather definitely located in the affected organ. This would argue in favor of the existence of a central pathway over which at least certain types of impulses from the viscera might reach the conscious level.

Under certain circumstances associated with visceral disease, pain becomes manifest which is not located in the viscus itself, but which seems to come from an area of the body wall which is supplied with sensory nerves by the same spinal cord segment which receives the visceral afferent impulses. This is called referred pain. Referred pain usually results from visceral inflammation. On the basis of clinical observations it has been concluded by some that actual visceral pain is associated with disturbed visceral function—increased smooth muscle tension which might or might not be due to organic disease—while referred pain results only from a structural lesion in the wall of the viscus—inflammation. It would seem that under normal conditions the great majority of visceral impulses do not reach the conscious level, that under certain conditions causing increased tension or ischaemia of smooth muscle actual visceral pain may be experienced, and that in the presence of visceral inflammations referred pain results. It is with referred pains, both actual and simulated, that we are chiefly concerned in this paper.

Head and Mackenzie have contributed what is the most widely accepted explanation of referred pain. Head formulated a law concerning referred pain which states in effect that a painful stimulus applied to an area of low sensibility in close central connection with an area of higher sensibility is recognized or felt in the area of higher sensibility rather than in the area of low sensibility to which the stimulus is applied. The viscera are areas of low sensibility and the somatic zones are areas of higher sensibility. In offering an explanation for this phenomenon, Mackenzie considered such reference of impulses as essentially reflex and called it the "viscero-sensory reflex." His explanation is based upon the fact that stimulation of a sensory nerve anywhere along its course will result in recognition by the brain and that this recognition will be the same as though the stimulus were applied to the end organ. Mackenzie's theory of referred pain is that the visceral afferent impulses reaching the spinal cord induce there an "irritable focus." The irritable focus creates a condition in which impulses reaching that segment from the related body surface over somatic afferent fibres are exaggerated and impulses from them which would ordinarily not be painful become so. The brain cells with which the affected somatic fibres are connected in sensory function have become used to locating impulses coming over these fibres as originating in somatic zones, so that in referred pain the brain is unable to recognize the visceral origin for the stimulus and inasmuch as the somatic neurones are sensitized, the brain recognizes the pain as being the somatic zone.

There have been modifications of the Mackenzie theory, but all recognize the transference of effects from the visceral afferent to somatic afferent neurones. In all theories based upon this concept the exact location of the transfer is not known.

It should be pointed out that while the above-described phenomenon is called a viscero-sensory reflex it is not strictly speaking a reflex in the physiological sense since it has no motor or effector side.

There are those who oppose the Mackenzie hypothesis of referred pain and hold that the referred phenomena accompanying disease of the abdominal viscera and which are manifested in the abdominal wall are produced as a result of involvement of the parietal peritoneum. It has been held that the muscular guarding (rigidity) and referred pain in visceral inflammation involve a direct somatic reflex from the involved peritoneum. While this may be part of the mechanism in some instances, it does not offer an explanation for referred phenomena from organs outside of the abdominal cavity such as the heart.

In support of the Mackenzie theory might be cited the fact that somatic hyperalgesia will persist after the visceral disease causing it has subsided. It is a well-known fact that a part which has been the seat of pain over a long period of time will remain relatively hypersensitive to stimuli even after removal of the original cause of discomfort. Pottenger points out that this change is observed in chronic pulmonary tuberculosis where it is found that the tissues over the involved shoulder will become hypersensitive so that even such slight stimuli as changes in the weather will initiate a painful response. This phenomenon is answerable on the basis of lowered threshold to somatic stimuli through the persistence of an irritable focus.

Before leaving the fundamental factors involved in referred pain something should be said of the rôle played by certain changes in the somatic tissues themselves. These changes consist of vasoconstriction and muscular guarding resulting from viscerocutaneous and visceral motor reflexes. Certain investigators have observed that somatic hyperalgesia is commonly accompanied by cutaneous ischemia the result of vasoconstriction. On this basis it has been assumed by them that the somatic hyperalgesia is a result of the ischemia which is in turn brought about through viscerocutaneous reflexes. The hyperalgesia according to this concept is not due to a central transfer of pain impulses from the viscera, but to the effects the visceral afferent impulses have on the skin circulation (vasoconstriction). Such an explanation does not appear adequate to explain all the characteristics of referred pain, but the changes considered therein probably are part of the sum total of changes leading to the many manifestations of somatic pain.

With this brief survey of the mechanism of referred pain, it is now possible to make analysis of many painful expressions in the light of osteopathic principles and to show how these principles have added to a better understanding of certain seeming inexplicable clinical manifestations.

The place of altered spinal mechanics, including the osteopathic spinal lesion, in the phenomena of referred pain is of major importance in an osteopathic approach to the topic. Without entering into a discussion of the nature of the spinal lesion, it may be stated as the writer's belief that the earlier changes associated with the spinal lesion as well as the later distant effects are induced by forces set in motion as a consequence of spinal joints attempting to carry out their normal physiological movements in the presence of some mechanical embarrassment. The ways in which this mechanical disturbance in the vertebral structure can produce alterations in the physiology of the nervous system have been presented by the writer in a previous paper. After analysis of all the factors associated with abnormal mechanical states in the vertebral column, the conclusion must be reached that the effects produced by the spinal lesion and other similar spinal abnormalities must be produced largely through reflexes either directly or by their effects upon the vascular system. These reflexes are probably set in motion from the irritation attending forced articular motion in abnormal planes. If the body has sufficient time it can build compensations for postural stresses and altered spinal joint mechanics. This we see to be the case in the slowly developing spinal curvatures. Where, however, the spine is immediately confronted with the attempt to maintain normal physiological activity in the presence of suddenly initiated defects in its structural and mechanical arrangements compensations cannot be immediately established.

lished and the detrimental results are translated in part at least into nerve activity. It is largely through the medium of such nerve action that the various manifestations of the spinal lesion and other mechanical abnormalities are brought about. It is probably the disturbing action which such postural strains, abnormal joint pressures, and other factors associated with lesion have on reflex patterns that accounts for many of the sensory manifestations expressed from the lesion either with or without visceral disease.

The first question which might well be asked is whether or not abnormal spinal mechanics can in any way produce or help to maintain an irritable focus in the spinal cord. We may assume that the irritable focus involves a lowering of threshold for certain afferent impulses and in this way reduce the problem to one involving the physiology of the synapses which are largely responsible for maintaining graded resistances, and which are the areas in the nervous system at which variations in thresholds are maintained.

It may be assumed that other circumstances graded resistances are established at synapses involving the cross over areas between visceral afferent and somatic afferent neurones sufficient to prevent the transfer of impulses from one system to the other. Under the conditions of visceral inflammation it has been shown that impulses which have their inception in the inflamed organ do reach the levels of consciousness. Under such circumstances there is probably a sufficient summation of impulses to cross the threshold of synaptic resistance ordinarily erected to keep visceral afferent impulses from entering the somatic zone. Such transfer involves the production of an irritable focus and the result is the recognition of pain coming from the body surface.

If, for the moment, we consider that there is no actual visceral inflammation, but instead a condition of abnormal spinal mechanics we might construct a hypothesis to explain certain sensory manifestations of the spinal lesion. Abnormal spinal joint mechanics and the tissue alterations accompanying it produce summation of impulses entering the central nervous system. Certain impulses are concerned with conscious recognition of pain in the involved area and others are concerned with certain reflex manifestations such as muscle contracture and vascular alterations. The constant passage of impulses through a nerve chain lowers the threshold of the synapses over which they pass. If this is applied to the somatic pathway we see circumstances induced by bombardment of afferent impulses from articular and periarticular areas which could lower afferent thresholds in the central nervous system. It is known that in a tissue which has been painful over a relatively long period of time it is much easier to evoke pain.

In other words, that tissue will evidence pain as a result of a lesser stimulus because of a lowering of afferent thresholds. The spinal lesion can apparently operate in the same manner to lower thresholds. It might well be that under the conditions just cited visceral afferent impulses from normal organs might be adequate to cross to the somatic zone because of lowered thresholds and cause painful responses which would simulate referred pain from visceral inflammation. In this instance the lowered threshold or irritable focus has not been produced as a result of impulses from an inflamed organ, but through alterations induced by somatic afferent impulses from a lesioned or mechanically disturbed spinal area.

The factors just presented offer an explanation for the simulation of visceral disease by somatic variations. It is becoming more apparent as the problem is studied that certain abdominal manifestations which have previously been considered as definitely indicating surgical intervention become more critically studied from the standpoint of the possibility of their being induced by somatic alterations rather than acute visceral inflammation. Indeed, one medical surgeon has told us within the past five years that in well over 50 per cent of the cases diagnosed as acute appendicitis and operated on as such by him the entire symptom picture was produced by factors outside of the appendix entirely. Most of these factors he located in the spine and he included such states as faulty posture, poor body mechanics, spondylitis, and the spinal lesion.

The importance of considering the possibility of the spinal structure and mechanism being involved in the primary induction of the irritable focus becomes apparent. The place of correcting such spinal abnormalities and thus possibly preventing unnecessary surgical intervention becomes established and osteopathic manipulative procedures take their place in the fore ranks of conservative measures. Who of us has not seen the operated patient who still has his pain? In these instances the removal of the organ has not removed the cause of the irritable focus. While it can be admitted that in such a case the surgical intervention might have been definitely needed, still for complete success in removing sensory manifestations such surgical procedure must be combined with a diligent search for other causes which might operate to produce an irritable focus and persistence of sensory manifestations. The vertebral column forced to operate under abnormal mechanical conditions can be one such cause.

There is still another way in which the changes accompanying the spinal lesion can produce referred sensory phenomenon which simulate a viscerogenic expression. Head's law having to do with the recognition of painful stimuli deals with the visceral tissues only as areas of low sensibility. It has been shown that when an area of the skin becomes diseased the impulses arising from it may be referred to some closely related normal area. Thus, if the skin of one side is diseased, that of the corresponding part of the body on the opposite side segmentally related will express the painful response. This phenomenon is known as allosthenia and it indicates that one somatic zone, if undergoing a pathological reaction, may stand in the same relation to a healthy somatic zone that an inflamed organ stands in relation to the somatic tissues which manifest its referred pain. In other words, a somatic tissue may become an area of low sensibility in relation to some other and normal somatic tissue.

Animal experimentation carried out by Burns and others to determine the nature of the pathological changes in various tissues accompanying the spinal lesion has indicated that these changes consist essentially of the reaction of inflammation and its sequelae. This being the case it is easy to see how the impulses from a somatic area which through inflammatory changes has been made an area of low sensibility might produce the same type of referred painful phenomenon that those from actual visceral inflammation might produce. Thus, there is added another circumstance in which involvement of the spinal tissues can in its sensory expressions exactly simulate viscerogenic referred pain. It will be obvious that the levels of pain will probably not coincide with the levels of major lesion reactions in these instances, but will be those of the closest related normal level. This introduces an added confusing factor for now pain may, indeed, be a far if strict segmental innervation is adhered to in correlating somatic and suspected visceral zones. The phenomenon of allochiria in the lesion and the segmental shifting of effects just noted also support part of the answer for many pains which seem to follow no exact and correlated radiation.

In the above discussion it was assumed that no actual visceral inflammation existed, but that the referred phenomena were expressions of somatogenic "reflexes." The fact must be recognized that viscerogenic impulses may cause referred pain and that in certain instances this will occur in the absence of spinal lesion while in other there will be combined visceral disease and spinal change. It would seem advantageous at this time to survey the elements likely to be of importance in this relationship.

It is generally accepted that visceral diseases, especially those of an inflammatory nature, can produce so-called "secondary" lesions in the spine. There is probably more than one factor operative to produce such a secondary lesion and as the forces which unite to produce it involve the same impulses as those concerned with painful phenomenon, and as the same basic nervous physiology...
underlies each, it would be well to briefly re-
view the probable sequence of events leading
to the viscerogenic production of the secondary
lesion. All reflex phenomena associated with
visceral inflammation indicate that the essen-
tial change in reflex patterns involves summa-
tion of impulses from the inflamed organ.
One expression of this summation is referred
pain in which thresholds to the conscious
levels have been reached. Another evidence
is in the various motor responses especially
those involving somatic muscles and these are
definitely involved in the production of the
secondary lesion. That summation sufficient
to break through synaptic resistances existing
between visceral afferent and somatic efferent
neurons and cause a discharge in the motor
neurons can be produced is shown in the muscu-
lar rigidity (guarding) which occurs in the
abdominal muscles when one of the underlying
viscera is acutely inflamed. The visceral
fibres carrying the afferent impulses for this
visceromotor reflex enter the posterior tracts
of the spinal cord, and through collaterals and
associations carry impulses to the anterior
horn cells of the gray matter. At this point
the summated impulses are brought into rela-
tionship with motor cells of neurons giving
peripheral processes to somatic muscles sup-
plied by the posterior as well as the anterior
division of the spinal nerve. The muscular
rigidity resulting will, therefore, not be con-
fined to the anterior abdominal muscles, but
will occur as well in the muscles of the back.
Such muscular contraction, however, is not
the spinal lesion for it must be remembered
that the function of a muscle is to contract
and, therefore, the contraction occurring in
the visceromotor reflex is not necessarily any-
thing abnormal so far as the muscle is con-
cerned simply because it has its genesis in an
inflamed organ. The somatic muscle con-
traction of the spinal muscles in itself cannot
be considered any more abnormal than the
anterior guarding rigidity.
It would appear, then, that there must be
some added factor which would account for
the observed effects at the spine. It can be
reasonably assumed that while the simple
muscular rigidity itself could not initiate the
pathological changes considered to be present
in the lesion, such maintained muscle contrac-
tion could greatly interfere with the normal
phenomenon they are as well concerned with
sensory responses. Thus, the visceral inflam-
lation may be producing muscular rigidity
and paving the way for a secondary spinal
lesion, and at the same time be establishing
an irritable focus in the cord and producing
referred pain. From what has already been
said concerning the relation of the spinal
lesion to the establishing of an irritable focus
and the consideration of the spinal lesion as
an area of low sensibility it will be seen that
once the lesion has been established it then can
operate to maintain the sensory phenomena
which might have been viscerogenic in the
first instance. If the visceral source of the
causative impulses is removed (resolution or
surgical removal) the secondary lesion pro-
duced as a result of the same impulses can
continue to maintain conditions whereby vis-
ceral referred pain is simulated. The patient
who has an appendix removed and continues
this pain is being maintained by the
spinal lesion which may have been present
before, or resulted from the appendicular
inflammation granting that the appendix was
diseased. Then there is the patient who has
the operation with removal of a normal ap-
pendix and continues to have pain from the
spinal condition.
What an argument for osteopathic pre- and
post-operative care!
The above observations indicate that there
are several dangers of which we must be ever
mindful. One is the danger of too hastily con-
cluding a viscerogenic origin for referred pain
and recommending surgical intervention on a
false assumption. Another is to expect com-
plete relief from pain by surgical intervention
in a case that can be definitely established as
surgical. Another is of failing to make the
most exhaustive study of especially the spinal
structure and mechanics in every case no
matter how frankly surgical it might seem.
And finally the danger of claiming cure of
visceral disease on the basis of relief of pain
alone. If, as the medical surgeon has told us,
over 50 per cent of his appendectomies showed
a normal appendix in the presence of all the
symptoms of appendicular inflammation, it
would be quite illogical to claim the cure of
appendicitis by spinal treatment in such cases
even though it removes the symptoms.
The diagnostic criteria upon which differen-
tiation between visceral sensory representa-
tions and those of somatic origin can be made
are not well correlated at present. The meth-
ods are not decisive or conclusive, and much
more study along this line must be carried out
before any degree of assurance can be felt in
the matter. The scope of this paper does not
admit of a discussion of these methods.
Finally, may be considered the place that
the spinal lesion and other mechanical defects
in the spine have in determining the segments
at which referred pain will be expressed. A
patient is frequently seen in whom known
visceral disease exists, but in whom the re-
ferred pain from it does not follow the usual
segmental pattern. Thus, a disease which
should manifest its painful reactions in the
mid or lower thoracic segments will do so in
the low back instead. Lloyd* has reported
that pains are frequently complained of in
areas of the back removed from the segments
through which organs demonstrated radiogra-
pherically to be involved should reflex. Two
explanations offer themselves in accounting
for this segmental shifting the one involves
the phenomenon of allochthria, and the other
the physiology of the synapse.
According to the first of these it might be
assumed that in the presence of spinal lesion
a condition of tissue constituting an area of
low sensibility in the somatic zones would be
produced. Impulses entering the cord at this
segment either from somatic or visceral zones
would be referred to the nearest normal seg-
ment and recognized as coming from the
somatic zones of the normal segment. This
might account for variations of a segment or
two from the normal pattern, but would
hardly offer satisfactory explanation for the
greater departures.
The second explanation involves the dis-
tribution and physiology of the visceral af-
ferent neurones in the cord.
The body has developed only one afferent sys-
tem. Its cells are in dorsal root or homologous
ganglia, are unipolar, and send peripheral and
central branches. The peripheral branches of

* Lloyd, P. T., Personal communications.
certain of these cells develop with the somatic nerves, while others develop with the vegetative nerves to become the visceral afferent pathway. The distribution of the central processes of the two types is the same; each enters the cord, splits into a long ascending and shorter descending branch, and gives various collaterals to the segments through which they pass. Some of the collaterals end in relation to cells of the central association system and thereby enable impulses to descend lower than the few segments through which the short descending branches pass.

Afferent impulses from the visceras are prevented from entering the somatic (conscious) zone probably through the process of synaptic resistance. Thus, the circumstances which cause a transference of impulses from the visceral to somatic level must involve summation sufficient to break this resistance and produce the so-called irritable focus. It would appear that in some patients there are visceral afferent impulses which might be summated to some degree, but still not sufficient to break down the synaptic barriers at the segment in which they enter the cord. No referred pain could result. Suppose that in this individual there had been previous lesion, or one at the time operating to lower the threshold for stimuli through long continued activity and let us assume that this lesion involved or involves the low back (lumbar and sacral). Under these circumstances visceral afferent impulses of the type just described might enter the cord in the low thoracic region, but because of adequate synaptic resistance be prevented from initiating a reaction at their segment of entry and the closely related segments to which their ascending or descending carrying fiber gave collaterals, but be able to pass the synaptic barriers at the levels reduced through lesion. The response, then, would not occur in the lower thoracic segments, but in the low back. This is a fact to be considered in evaluating pain in the lower back.

The few considerations of referred pain given in this paper indicate that while the osteopathic school has made some valuable contributions to a better understanding of many of the manifestations of pain both with and without visceral disease, still these very contributions open the way for much further and additional study, and as well indicate that the whole field as applied to diagnosis, prognosis, and treatment is much more complicated than in the days when all pains were either viscerogonic or somatogenic. It would seem that in the present status of things the osteopathic physician must carry the heaviest burden in this problem, but the reward is that he probably has a clearer understanding of the situation and through it is able to save many cases from surgery which might otherwise be needlessly subjected to operation.

A Survey of Cosmetics Relative to Their Toxicity*

Russell C. Erb, B.S., M.S., F.A.I.C.

The word “cosmetic” means beautifying or tending to preserve or restore comeliness. It follows, therefore, that a cosmetic is any substance or agent supposed to beautify the body. Cosmetics, with the possible exception of pure soap and chalk tooth powder, are not beneficial. They are decorative, a relic of savagery and barbarism. Those who consider the cut rather than the warmth of the cloth are cosmetic addicts. The use of cosmetics is of two types. The first type of poisons is the true poisons; those that are toxic when introduced into the body through any of the common avenues of absorption. Poisons of this type found in modern cosmetics are the salts of heavy metals, aniline derivatives (para-phenylene diamine is a bad one), phenol and its derivatives, thallium salts, etc. As most cosmetics are applied externally, such poisons present are absorbed either by intact or abraded skin. The second type of poisons are substances that interfere with dermatological functions. As a functioning organ the skin certainly is not helped by being dosed with an infinite variety of mixtures recommended by the drug store clerk, or by being greased more or less frequently with salts of fatty acids (some containing free alkali). The skin has an excretory function aiding the kidneys and at the same time serving as a temperature regulator for the body. Smearing free fatty acids, such as stearic acid, on the lips (as in the orange type of lipstick), causes a perceptible sensation of warmth, a symptom of an interference of heat regulation. The skin cannot function normally when covered with greases and creams, and since there is a subtle relationship between the skin and the rest of the system, serious consequences may be the result through their continued use.

Then again there are individual differences making the same cosmetic preparations detrimental for some skins. The dermatologist knows that some individuals are so sensitive to salicylic acid (found in some cosmetics) that even minute quantities produce serious skin lesions.

Toilet powders are offered in a multitudinous variety of textures, shades and odors. The odor is probably the chief selling factor, although manufacturers are staging increased ballyhoo on shade as indicated by the advertisement of Pond's. This manufacturer claims to have “color-analyzed” the skin of girls, and to have found bright blue in blond skin and brilliant green in brunette skin. But amusingly they make the mistake of saying that they have blended these tints invisibly in their new shades of powder. The harm that may result from excessive and continued use of face powders, dusting powders and talcum powders is through inhaling them. Toilet powders consist of one or several of the following ingredients: Kaolin (clay used for making chinaware), titanium dioxide, zinc oxide (used also in making house paint), zinc carbonate, zinc stearate, magnesium stearate, barium sulfate, barium carbonate, chalk, talc, bismuth oxychloride, rice starch, and orris root. A patent has been issued to use cadmium sulfide, a toxic compound, to protect the skin against ultra-violet light.

Of the above-mentioned chemical com-

* Read before the Annual Review Course of the Graduate School, June 15, 1935.
pounds, zinc stearate has received the widest notoriety as an undesirable constituent. When women dust themselves with powder, an actual dust storm is created. The air about the face becomes surcharged with powder particles, so that with daily usage naturally a considerable amount of dust is inhaled. It is claimed that inspiration of zinc stearate may cause bronchopneumonia and other pulmonary lesions. A death in one case was reported within an hour after zinc stearate had entered the pulmonary passage. Since collapse is a persistent symptom in practically all cases, a toxic effect is suggested. Whether this is due to the toxic nature of zinc itself or due to the "tenaciousness" of the powder is not fully established. Other ingredients in face and dusting powder may produce a similar but less severe insufflation pneumonia.

Individuals susceptible to foreign proteins may develop allergic symptoms from the proteins in rice starch or orris root that are used in many powders. Some cases of pseudo hay fever or asthma are corrected when rice starch or orris root is withdrawn from the daily dusting procedure of the feminine toilet.

Lipsticks and toilet creams contain large quantities of paraffin derivatives obtained from petroleum. Such coal-tar derivatives are listed under occupational hazards in works on toxicology. Nevertheless, women are making frequent applications daily to the delicate mucous membrane of the lips. The foreign dyes incorporated in lip glosses are usually of the carmine type, although the so-called orange lipstick contains eosine, a staining reagent for dead tissues. Just what harm may be caused by lipstick usage cannot yet be stated. However, with women serving as experimental guinea pigs, science will discover the answer. Tumors have been produced by one constituent of lipstick and certain facial creams, i.e., liquid petrolatum or "liquid paraffin." Tumors, like fibromata or granulomata, known as paraffinomata, have been produced by the subcutaneous injection of liquid paraffin.

The same statement may be applied to the various eye paints, the lash luriants, the eye pencils, etc. Mascara, for example, consists of lamp black, petrolatum (paraffin) and a soap base. This unnatural mixture has caused eye irritation and dermatitis. Eyebrow pencils are essentially the same in composition.

Cosmetology has answered the vanity of women, and some men, promising soft and beautiful hands, by placing a large variety of hand lotions and creams on the market. These lotions are designed either to replace or to "complete" the skin's natural function. Many of our nationally known lotions contain phenol or carbolic acid. Carbolic acid should never be applied promiscuously to the skin, as the hand lotion makers recommend. Phenol or carbolic acid poisoning has resulted from absorption in wounds and injection into cavities. Application of dilute solutions to intact skin, especially when the phenol cannot easily evaporate (as when mixed with viscous matter in lotion paste), has caused dry gangrene, eczema and tissue necrosis. Toxic results are produced also through the inhalation of phenol. Workmen in phenol plants are cautioned not to splash phenol on their hands. Yet women pay a high price for the privilege of applying the same material on their hands. Time is a factor in determining the toxicity of phenol.

Becoming dissatisfied with one's hair is likely to lead to the use of extremely poisonous liquids; liquids that should be labeled with the familiar skull and crossbones, an appropriate design for hair cosmetics. Hair restorers, i.e., hair dyes, are dependent upon either toxic metallic compounds or toxic aniline derivatives. Among the poisonous salts used to dye discolored or gray hair are salts of silver, lead, copper, mercury and bismuth. The color in hair develops when these metals unite with the sulfur in the hair shaft and deposit dark colored sulfides.

The free use of silver preparations on tissue that is capable of absorbing it may produce argyria, erythematous and papular eruptions with pruritus. Blonds and brunets as well as fat and lean individuals react differently to silver.

Lead salts in hair dyes are common. A hair restorer now being advertised on the radio contains this poisonous ingredient. The fact that lead compounds are of relatively low toxicity, and that in moderate amounts they do not produce immediate noticeable ill effects, leads to a false sense of security. However, the fact that lead poisoning is cumulative makes it dangerous. To apply lead solution to the hair and scalp is running too great a risk in one's quest for youth and beauty.

The most efficient hair restorers, as far as dyeing quality is concerned, and the most hazardous as far as health is concerned, are those containing the anilinic compounds such as para-phenylene diamine. These compounds are so dangerous that some hairdressers require the patron to sign a release of responsibility. Usually tests are made on small areas of the head to determine how well the patron "can take it." The symptoms developing from the poisoning action of para-phenylene diamine are skin inflammation, acute dermatitis, rash and soreness of the face, swelling of the eyelids to the extent of actual closing in some cases, acute nephritis, anemia and death.

Removing hair with the aid of depilatories is often harmful. There are mechanical and chemical depilatories. The chemical depilatories are dependent upon the action of sulfides, a discovery made in the dehairing department of our tanneries. The toxic sulfides of calcium, barium, strontium and sodium remove hair quite readily. They will also dissolve skin. Being soluble in water they are readily absorbed by the disintegrated dermis. Cases are on record where these sulfide depilatories were used near the eye causing complete destruction of sight.

Cosmeticians find possible toilet products almost anywhere. The sulfide depilatories were born in the tannery. A more recent and more toxic depilatory, thallium acetate, had its origin through peculiar circumstances. When the bubonic plague raged on our west coast, many exterminators were tried in an effort to destroy the diseased rats. These rats bore the fleas which acted as carriers of the plague. Many rats were killed but the fleas took to the ground squirrels which abound in that section. By 1924 the plague had spread among the ground squirrels so extensively that it had reached the Sierra Nevada Mountains. Public health authorities faced the practical certainty that if its spread was not stopped at this natural barrier, the disease would cross the country slowly but inevitably.

About this time there appeared on the market a German proprietary known as Zillo Paste, for use in destroying rats. Analysis showed that the effective agent was thallium. Thallium is an unusual poison. It causes falling out of the hair; it is a powerful depressant to the glandular system, particularly to the glands of reproduction. Dermatologists utilize thallium salts. Administered to prepubescent children in doses of eight parts per million some parts of body weight it is used in the treatment of ringworm. The hair falls out and the ringworm fungus which is deep in the hair follicle is more accessible.

About the same time an American depilatory called Koremlu appeared. Analysis showed that it was a 7 per cent thallium ointment, the directions for the use of which called for its liberal application. The women of the country liked it, being ignorant of the danger, and considered the high price an indication of quality. After using two or three jars, the user began to suffer from nausea and a tingling sensation in the extremities. Difficulty was experienced in walking. The liver and kidneys were injured and the vision impaired. Some died; some became blind. They were suffering from human thallotoxicosis—the same thing that killed the rats. The Koremlu Company failed, due to liabilities in the form of damage suits. The promoters adopted a new name and began to make more cosmetics. Since superfluous hair is not a disease, depilatories cannot be classed as drugs under our present laws. The Food and Drug Act is powerless to interfere with the sale of such dangerous depilatories. Educating the public is the only means of prevention against the use of hazardous cosmetics of this type.

Deodorants are a convenient way of hiding
OSTEOPATHIC SPIRITION

act by interfering with a normal body odorants that merely react with and neutralize objectionable smell that either should be washed away or its causes determined and corrected by the physician’s method. Those deodorants that merely react with and neutralize the ill-smelling perspiration are probably harmless. Those that actually stop the perspiration are potentially dangerous as they act by interfering with a normal body function. Aluminum chloride is used widely as a deodorant of the second type. Its toxicity, however, is noted in susceptible individuals where it produces a mild dermatitis or rash. Its action on fabrics should serve as a warning.

The various creams, “nourishing” or otherwise—and all of them are “otherwise”—are as a class without benefit and possibly harmless, except those special bleach creams that contain mercury or salicylic acid. Both of these poisonous substances have been found in cosmetic creams, and their use is strongly condemned.

We have classed reducing remedies under cosmetics, based on the original definition. Women wish to reduce in weight largely because they wish to appear beautiful or comely. Used with this motive, the reducing agent becomes a true cosmetic. Only one reducing remedy will be mentioned, namely, sodium dinitrophenol. This cosmetic had its birth in a munition factory. Fat men working with this war material lost weight in a surprisingly short time.

Cosmetological experts saw a possibility. Mercenarily motivated, they soon had a line of capsules on the open market. These capsules contained the deadly dinitrophenol, the relative of trinitrophenol used in the World War as a high explosive. Women taking dinitrophenol were literally cooked to death. Symptoms: the temperature rises rapidly, vital organs and tissues are degenerated, necrotic irritation and ulceration is produced, serious blood changes develop. It is not surprising that the number of toxic and fatal cases after the use of this poison is mounting daily. Our journals of health are publishing more and more concerning the pitiable cases of individuals in quest of slimness for beauty’s sake. Dinitrophenol typifies the latest in extremes to which unscrupulous cosmeticians will go.

The responsibility for the dissemination of information concerning the harmfulness of cosmetics rests upon the physicians of the land. The osteopathic profession especially should take a firm stand against harmful cosmetics. The osteopathic physician is opposed to foreign substances being used within the body. He should be opposed also to foreign substances used on the body, other than antiseptics, antidotes and other agents of proven therapeutic value.

THE 37th Annual Convention of the Pennsylvania Osteopathic Association was held in Harrisburg, October 9th and 10th. There were approximately 200 physicians from Pennsylvania in attendance who were unanimous in their approval of a fine professional program and extra features offered by Dr. Harvey Orth, Program Chairman, and the committee of Dr. Ruth Deeter, Chairman, General Arrangements. Dr. Jervis Flick of the Massachusetts Osteopathic Hospital, Boston, was a featured speaker and he was supported by representative physicians from all parts of this state in the professional program. At the business sessions important changes in the Constitution and By-Laws were adopted and Dr. George T. Sill, Allentown, Pa., was elected President for the coming year. Dr. H. Willard Sterrett was named President-Elect.

The Executive Council of the Pennsylvania Osteopathic Association met on Sunday, October 18th, and elected the following legislative committee in accordance with newly adopted by-laws: Term of 5 years, Dr. Ralph L. Fischer, Philadelphia; 4 years, Dr. O. O. Bashline, Grove City; 3 years, Dr. George B. Stineman, Harrisburg; 2 years, Dr. L. V. White, Harrisburg; 1 year, Dr. C. R. Heard, Allentown. The first named was appointed temporary chairman until such time as the committee can elect its program chairman. It appears that much of interest and importance will be considered by the legislature during its next term and both the executive council and legislative committee anticipate the necessity for much hard work in the defense of osteopathic rights in practice.

PHILADELPHIA ACADEMY OF OSTEOPATHY MEETS

The first stated meeting of the Academy of Osteopathy will be held Thursday evening, October 29th, at 6:30 P. M. After the dinner and a short business session, the professional program will be given by Drs. Dressler, Fischer and Lloyd upon the subject, Peptic Ulcer. Election of officers for the ensuing year will also be held at this meeting.
FORTY IN NEW P. G. CLASS

DR. RAY F. ENGLISH,
President of New Class

A

OTHER class of graduate osteopathic physicians was registered in the College on Wednesday, October 7, 1936. There are forty matriculants in the new class. They will pursue a special two-year course designed to qualify them for the new class of seventy-four who entered in the fall of 1935 have also entered upon the work of their second year.

COUNTY SOCIETY HEARS DR. GERDINE OF CALIFORNIA

HE Philadelphia County Osteopathic Society held their monthly meeting with Dr. Ruth E. Brandt, newly elected President, in charge, on Thursday, October 15th, in the College Auditorium.

After a very interesting business meeting Dr. Gerdine discussed the subject of "Prognosis."

The doctor stated, "Many doctors are not familiar with the natural prognosis of a disease. Some patients get well, others become chronic, others of course, may die. So the doctor should know in a general way the natural possibilities before attempting to estimate the outcome under treatment. We know that if the central nervous system is badly damaged, there is hardly any hope for complete recovery. On the other hand, damage to the peripheral nerves may result in complete recovery . . . "In disease of the nervous system then, there may be complete recovery or partial or none at all depending upon the nature and extent of the pathology . . . "Dementia praecox affects chiefly the young people. We do not know much about its cause or its pathology. We know it tends to become chronic although some cases in the early stage may recover . . . "Since there is no evidence of definite pathology or that the brain is necessarily damaged recovery may be possible. Accordingly in our experiences we find the possibilities of recovery under treatment is almost exactly in mathematical proportion to the time that the patient has had the disease. When treated early there has been a large percentage of recoveries, when treated late, very little, if any . . . "A progressive nerve disease may come to a standstill and remain so for life but of course it may progress. Progression, however, is by no means necessary. I could cite instances of brain disease from which a patient has recovered and lived for at least twenty years without any further evidences of damage or any other disturbances of his nervous system. In other words, there was no progress of the diseased condition . . . "Dr. Richard Cabot, of Boston, has made the same general point which at a much earlier date, was made by Dr. Still, namely, that the human body had within itself the possibilities for prevention and even cure of disease and there are instances of almost every kind of disease which have been arrested with no treatment whatsoever. He suggested, therefore, that the duty of the doctor is to find the handicap when nature does not seem to overcome the process of the disease successfully and possibly by removing that handicap the patient can become well."

WOMEN'S AUXILIARY TO HOLD ANNUAL CARD PARTY

NCE again the Women's Auxiliary of the Osteopathic Hospital of Philadelphia announce their annual Bazaar and Card Party to be held in the South Garden of the Bellevue Stratford Hotel on Saturday afternoon, November 21, 1936, at 2 P. M.

Mrs. Gladys H. Sterrett, President, announces the following Committees: Gifts: Mrs. T. K. Witwer; Handkerchiefs: Mrs. W. A. Graves; Dolls: Mrs. Spencer Lebengood; Cakes: Mrs. John W. Graham; Candy: Miss Flora Schreiber and Mrs. Chester A. Kratz; Arrangements: Mrs. Peter H. Brearley.

The Hostesses are—Mrs. Edgar D. Doyle, Mrs. Edouard J. Albert, Mrs. Raymond Bailey, Mrs. Peter H. Brearley, Mrs. Edward A. Green, and Mrs. Henry Bellew. The Graphologist will be Mrs. Mabel P. Shields.

Many gifts have been offered by Dalsimer's and the Julia Miller Beauty Salon, etc.

FIFTH ANNUAL CHARITY BALL

A

T THE regular meeting of the Board of Directors held on Wednesday, October 21, 1936, in the College Library, a resolution was adopted placing the conduct and management of the Fifth Annual Charity Ball to be held at the Penn A. C., February 19th, in the hands of a Committee of the Board of Directors consisting of Dr. Holden, Chairman, Mr. Van Straaten, Mr. Loane, Mr. Morris and Mr. Stauffer, supplemented by five members from each of the following groups, the Hospital Staff, the Women's Auxiliary and the Junior Aid Society. A meeting will shortly be called by the Chairman of the Committee from the Board for the purpose of selecting members from the other bodies and the formation of subcommittees as a working basis for the project. We contemplate making this the best occasion of the kind that has yet been held under the auspices of the Osteopathic Hospital and College of Philadelphia. We feel that all those who shall have active participation in the management of this affair will give unstintingly of their time and energy to a project so worthy and at the same time so pleasurable.

C. D. B. BALBIRNIE, Sec.
WITH THE ALUMNI ASSOCIATION

The President of the New Jersey Osteopathic Society for 1936-37 is Dr. Gordon P. Losee, P. C. I. O., '17, of Westfield, N. J.

* * * *

Marriages


W. D. Lumley, P. C. O., '31, Columbia Falls, Maine, and Miss Margaret A. Edwards, Ephrata, Pa., in Manheim, Pa., July 29th.

On September 19th Miss Ruth Dunning, daughter of Dr. and Mrs. T. Snively Dunning, Wayne, Pa., and Dr. Harold W. Christensen, P. C. O., '33, of Summit, were married.

* * * *

Births


To W. A., P. C. O., '27, and Mrs. Ketner, Clarion, Pa., a daughter, Janet Mildred, recently.

To M. C., P. C. O., '32, and Mrs. Pettapiece, Camden, Maine, a son, Milton Carman, Jr., July 22d.

To Alvan D., P. C. O., '27, and Mrs. Wagner, Herkimer, N. Y., a daughter, Phyllis Ann, August 24th.

Dr. and Mrs. R. McFarlane Tilley announce the birth of Jon Peter Tilley on October 16, 1936.

* * * *

Deaths

Joseph Franklin Finch, P. C. O., '02, Doylestown, Pa., August 2d, age 76.


STUDENTS DEFEAT FACULTY IN GOLF

The students in the college combined their strong golf forces and defeated the faculty in their annual tournament held at the Llanarch Country Club on October 1, 1936, by the score of ten to eight. The game this year was not up to the superior playing that was shown by the faculty last year. Instead of an open invitation, it was more of a match play between the students and the faculty. Keen competition was evident.

Harry Kerr, Junior, was low with an 84 for the students, while Dr. Charles Hillyer, internist, turned in the best score for the faculty with an 85.

STUDENT ASSEMBLY

OCTOBER 23, 1936, memorable in chronology; inspiring in character—that is descriptive of the first student assembly devoted to music a student assemblage to hear the college string quartet.

The college string quartet, consisting of Mr. Israel Siekierka, violin; Dr. Philip Lessig, violin; Dr. Frederick Long, viola; and Mr. Harry Gorodezter, cello; rendered the following numbers:

PART I
1st Concerto (2 movements)—By Giuioseppe San Martini

PART II
Quartet (2 movements), Op. 77 No. 1
By Joseph Haydn

a. Allegro Moderato

b. Adagio

Encore Numbers

1. “The Mill” By Raff-Pochsh

2. “Old Black Joe” By S. C. Foster

HONOR ROLL

Last minute additions to the list of contributors to the Endowment Trust Fund:

Mr. Samuel Ambler, '37 ........ Abington, Pa.
Mr. H. Caplan, '40 ........ Philadelphia, Pa.
Mr. J. DeMattia, '38 ........ Stapleton, N. Y.
Mr. F. Romano, '40 ........ E. Greenwich, R. I.
Mr. R. Romano, '40 ........ E. Greenwich, R. I.
Mrs. Florence Sabino, '39 ........ New York City
Dr. Edwin W. Tate, '02 ........ Newark, N. J.
Dr. George F. Van Riper, '23 ........ New York City

R. C. ERB.
COMPETITION between the classes in their support of P. C. O., through the Annual Giving Fund, has begun. Already gifts totaling $4,949 have been received from one hundred and twenty-seven contributors.

The 1936 leaders—the ten highest classes in amount given, number of contributors, and in per cent of class giving—are presented on the table on this page. Will your class be a leader when the Annual Giving Fund books close on February 19, 1937?

Through your contribution to the Annual Giving Fund, you give tangible expression of your own faith in P. C. O. Gifts, regardless of size, are of the utmost importance to the success of the plan which is devised for the systematic support of the College. Each gift has its place. No gift is too small, none too large. A working organization is already in the recruiting stages. Every alumnus of the College will shortly hear from class agents or from officers of the institution itself in their calls for real action.

You can do a fine thing for the Philadelphia College if you will mail a check, whether for five dollars or for a hundred dollars, to the Treasurer, P. C. O. Endowment Fund. In so doing you will have recognized the effectiveness of working together for your College, knowing that organized service is the most economical and sound. You are loyal and enthusiastic, but you know that many men can do more than one, however eager he may be. You will like to feel that you are fairly placed in the service of the College. You will help to improve the quality of osteopathic education represented in your Alma Mater and the service to every osteopathic physician across country.

Will you please respond to this, joining the Honor Roll of the Endowment Trust Fund of your Alma Mater?
Class Agents on the Job

Letters from class agents to all the members of each class are being mailed at this time. In subsequent issues of the Digest, lists of contributors will be published, omitting the amounts of individual gifts. Everyone can aid according to his ability and immediate circumstances. Every gift, irrespective of its size, is needed. Contributions may be sent to the class agents or direct to the Treasurer, P. C. O. Fund, 48th and Spruce Streets, Philadelphia, Pa.

What They Are Saying

The spirit with which P. C. O. Alumni are supporting the call in the new Endowment Fund Effort is well testified in letters recently received. A few of these are quoted as follows:

'25—"Enclosed find my check for $25.00. I realize that the College needs the money. I hope to double the amount next year."

'27—"I am heartily in accord with the plans the management of the Philadelphia Osteopathic College and Hospital have proposed."

'25—"I have a great sense of gratitude to the men and the Institution who prepared me to earn a livelihood and I am only too glad to demonstrate this feeling tangibly."

'06—"Nothing is dearer to my heart than the hope I may some day be able to discharge my obligation to the Philadelphia College."

'35—"I certainly agree that our College needs the hearty support of all its graduates."

'33—"I am delighted with the proposed plan to enlarge our facilities and to create an endowment fund. I am so wholeheartedly in accordance with the plans of the Committee that I have written my check for $30.00 as my yearly share in the work."

'15—"P. C. O. is the natural Institution for the support of the eastern profession. Those active in its present development who are now planning for future developments deserve the greatest encouragement and commendation."

'32—"I shall consider it not so much a duty, but a privilege to send in my contribution."

'29—"I am wholeheartedly back of all effort to make Osteopathy grow. Therefore, I welcome a chance to contribute to the support of the Philadelphia College."

'02—"I think the effort to raise money for the Philadelphia College a worthy one which should appeal to all eastern osteopaths whether graduates of the Philadelphia College or not.

'11—"I sent my small check some time ago and trust by next year it will be a more sizeable one. The progress has been remarkable the past few years and we must go on!"

'05—"You can rest assured that I will, and of my own accord, do something for my Alma Mater, of which I am very proud."

'16—"I am taking a sporting chance on the effort and enclose my check for $25.00 as my contribution toward the Annual Giving Fund."

'23—"I am enclosing my check and card for $10.00. This has been a tough year for me and I am sorry I cannot make it more."

1000 CONTRIBUTIONS BEFORE FEBRUARY 19, 1937

ALUMNI ANNUAL GIVING

The ten highest classes, on the basis of gifts to the Annual Giving Fund, April 19, 1936, through October 19, 1936

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount Contributed</th>
<th>Number of Contributors</th>
<th>Per Cent of Class Giving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1927</td>
<td>$640.00</td>
<td>1927</td>
<td>15</td>
</tr>
<tr>
<td>1923</td>
<td>550.00</td>
<td>1933</td>
<td>12</td>
</tr>
<tr>
<td>1926</td>
<td>430.00</td>
<td>1911</td>
<td>10</td>
</tr>
<tr>
<td>1928</td>
<td>330.00</td>
<td>1923</td>
<td>9</td>
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<tr>
<td>1911</td>
<td>320.00</td>
<td>1932</td>
<td>8</td>
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<tr>
<td>1924</td>
<td>315.00</td>
<td>1934</td>
<td>8</td>
</tr>
<tr>
<td>1917</td>
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</tr>
<tr>
<td>1925</td>
<td>215.00</td>
<td>1931</td>
<td>6</td>
</tr>
</tbody>
</table>

Make Your Class A Leader . . . The Goal: 1,000 Gifts Before Founders' Day

WON'T YOU HELP MAKE THIS HEADLINE COME TRUE?
THE AXONE
Concerning the Activities of the Students

Lester Eisenberg, Editor
William Reenstock, Mgr. Editor. Class Representatives, Assistants.

SANTA CLAUS AT THANKSGIVING?

Reads peculiar, doesn't it? Metaphor, hyperbole or even a neologism—the caption may become true if we reconstruct ten minutes of our forthcoming holiday. Requirements? Take home a couple of Charity Bally Subscription Books (one minute to acquire) explain to two friends the why and wherefore of the disposal of the books (three minutes per), sit back and smoke a cigarette with an air of content that only comes as a result of having performed a pleasurable duty (three minutes)—thus ten minutes assumes a period of importance, with no regrets of its loss.

The Santa Claus part? With the awards this year comes a new means of better distribution and reaching a new height of usefulness. The chances are greater than ever that one of your neighbors will share in the process time to time—the hospital gratefully shares in this distribution of extra books, or twenty thousand tickets, if you please.

A Jnme-like Santa Claus at Thanksgiving! Think it over, you'll like the idea.

SENIORS

If anyone were to look in on the Senior Classroom, they would probably remark on the smallness of the student body. We are a small group, but when we are taking care of the various assignments, which Seniors must, we look very much smaller than we really are.

There is a Hospital charge which must be answered by fifteen students all of the time. This will account for a part of the loss. These fifteen students constitute the "treating staff" of the Hospital. These Student Internes use the various methods of bedside technique as they are directed by the physicians in charge.

Together with the treating, this group receives an instruction along the lines which will aid them in later practice. There have been instituted classes for such instruction. Suturing, bandaging, splinting, casting, catheterizing, dressing, etc., are some of the major stresses.

The keeping of charts is also brought in to use. The keeping of charts is also brought in to use. The keeping of charts is also brought in to use. The keeping of charts is also brought in to use. The keeping of charts is also brought in to use. This will account for another loss. The hospital gratefully shares in this distribution of extra books, or twenty thousand tickets, if you please.

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JUNIORS

With the idea that the 1937 SYRINUS is going to present the affairs of the hospital and school in a different manner, the staff of this year's volume has long since started to compile the necessities for such an endeavor. The early start has aided everyone in such a manner that there is no rushing or needless excitement. Arrangements have been made by the business managers, whereas additional copies of the volume will be made available for home or girl-friend distribution. This tip is given particularly to the Juniors and Seniors, because there is no way anymore that there will be time to get another publication of this sort, with a verbal bouquet of orchids underscribed.

The first ward-walker of the year was Vinnie Viscusi, who lately had a sub-mucous recession done. He reported back with the information that the hospital is in as good a shape as ever, though his desires of similar return visits are not wanted. He "scooped" back the following: The student nurses are editing their own record book—the first in the history of the school!

Bob Doyle, who only last month threatened to blacken the eye of anyone printing anything minimization of his probable engagement, withdrew the threat. On October 2nd, Miss Phyllis Craig and he announced their betrothal, which was followed by a quiet celebration.

Miss Craig is a member of the Nurses Staff in the hospital.

The "Worry Contest" between Tony Rosa and Earle Scally is being continued into its third year. Now that his father has definitely located him, Tony has more time to worry about trivial things—his mustache and hair comb. Earle is gaining a big lead over his rival by his continued worry about the world, which seems to be resting so heavily on his shoulders.

Once upon a time (October 13th, to be exact) a very foolish freshman said, "I can lick the whole Junior class." Unfortunately he was overheard, and that will never be said again.

Tom McClimans has sold 15 hours to date in his 1938 Ford, and is now looking forward to the day when he will get his license.

C. N.

FRESHMEN

Just like Napoleon, we've met our Waterloo—Anatomy—and we might well be called "Napoleon's," for "most every day one sees a frolicking coming to school with a "Bony Part." Aside from designating the humorous as "The 'funky bone,'" and the ilium as "Homer's masterpiece companion to the Odyssey," we've really getting to know our anatomy (by degrees) in spite of the ghastly results of our first attempt!

And we're struggling through a series of Aetocen, Epitaxia, Primitive Stryxia, Behaviorism, and Sphygmonanometers (spelling). Ask Dr. D'Elling if the freshmen don't make grand subjects for bandages of all sorts! And was Hippocrates really hystericical or did he try to get things "straight?"

Socially, the freshmen have been entertained royally, the coeds by the J. W. O. A. at their "Taxe," the hobs by the fraternities, and all of us by the Neurone Society at an enjoyable dance. Thank you, Hosts and Hostesses!

The Freshman Formal is to be held in December, and it looks as though we'll have to do some pretty tough planning to keep up tradition! Do we get any help?

Now—to go on—we have here the febru... ?

D. E. M.

J. W. O. A. NEWS

At the first noon meeting of the Junior Women's Osteopathic Association, tentative plans were made for increasing our treasury. Dr. Ruth Tinley, faculty adviser to the J. W. O. A., spoke on the position and responsibilities of the woman osteopathic practitioner. She discussed the position and purposes of the O. W. N. A. and the advisability of the J. W. O. A. obtaining a membership as an auxiliary.

On Thursday, October 18th, the J. W. O. A. met with the O. W. N. A. of Philadelphia at their dinner meeting at Garden Court Cafe, at which time the topic for discussion was Osteopathy, past and present and whether or not it is meeting its demands.

R. C.

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PENN ATHLETIC CLUB
FRIDAY NIGHT, FEBRUARY 19TH

SIXTEEN CLINICAL AWARDS FLOOR SHOW EXTRAORDINARY