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Osteopathic Digest (January 1936)

Philadelphia College of Osteopathy

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TWO NOTABLE EVENTS:

FOURTH ANNUAL CHARITY BALL
February 22

and the personal appearance of

REAR ADMIRAL RICHARD E. BYRD
March 28

OSTEOPATHIC DIGEST

JANUARY 1936
Walter Winchell says:
"Clyde Lucas and His Crew Rate Orchids. They're at the New Yorker—Swell band . . ."

Well-known newspaper critics everywhere have acclaimed this Great Orchestra as that something new and different in modern dance syncopation.

Now guess what band this is—? No Sir, you're wrong,

It's CLYDE LUCAS and His Orchestra gone Hawaiian on us! Those leis might not fool you, but the mingled melody of voices, steel guitars and ukeleles will convince you that it is direct from Waikiki!

Yes sir, This time you're right!

It is CLYDE LUCAS and His Orchestra this time in glee club formation, with the silver-throated LYN LUCAS as featured soloist. This is modern, vocal harmony, with not a single barber-shop chord!
WITH THE EDITORS

"THE learning of osteopathy is to be accomplished only through the intimate relationship of a student and a master teacher or clinician. We venture the opinion that the art aspects therein transcend the imperativeness of close association between teacher and student required in usual educational undertakings. This comes not alone from the exactitude and preciseness demanded for training in its methods and its spirit of scientific inquiry but as well from need for the inspiration and point of view which comes only from closest possible contact with those who are devoted to osteopathic concept, research and practice. The student and the teacher, not the curriculum, are the crucial elements in the osteopathic training program."

"OUR students are subject to exactly the same influences that we are, except that they are of an age which perhaps responds more quickly to a variety of interests. A college curriculum cannot help but be influenced by them. It therefore behooves us to make quality the basis for admission. From this time on an ardent, discerning Faculty Committee on Admissions will function for the College, instructed to discharge its duty with care, wisdom and resolution. It will be admonished to resist the temptation to take more students merely to balance a budget."

"BY REQUIRING evidences of achievement and promise from our students and by setting the intellectual level of the class, rather than letting the weaker students compel the pace, we will have done much toward the ultimate refining and perfecting of our products. May we not with such a will wholesomely expect quickened interests within our walls and eventual challenge to leadership in the realms of practice? We know that we cannot make leaders. Nature seems to pick out her own leaders. What we can hope for is that those who prove to be leaders in later life will be the better leaders because of the training we have given them."
BIRTHDAY GREETINGS!

Once again members of the faculty of the College, and staff of the Hospital, students, and nurses felicitate Dr. Edgar O. Holden on his forty-second birthday celebrated on Saturday, February first. Possibly no man in the profession has given more of himself and by ingenious leadership inspired more conductive ideals in osteopathic education, than Dr. Holden.

DEAN EDGAR O. HOLDEN, A.B., D.O.

"The splendid character of material as well as the force of presentation noted in connection with the teaching of osteopathic principles in our College is a source of great satisfaction to us. Along with orderly, systematic platform, section, bedside and clinical instruction in osteopathic technique, a greater impetus to our basic osteopathic tenets and procedures has been realized than ever before. The philosophy of osteopathy must be a constant quantity in every detailed effort of the institution’s instruction program."
DEAN HOLDEN MAKES EDUCATIONAL ANNOUNCEMENT AS TO FUTURE OF COLLEGE—DR. THOMAS R. THORBURN RESPONDS.

A. O. A. PRESIDENT, GUEST SPEAKER AT RITZ-CARLTON HOTEL

IGH-ENY. Five members of the faculty and hospital staff gathered in the spacious dining room of the Ritz-Carlton on Tuesday night, January 14th as guests of Dean Edgar O. Holden at a monthly faculty meeting.

Dean Edgar O. Holden in addressing the members of the faculty said: "President Thorburn, Ladies and Gentlemen of the Faculty:

"Tonight's meeting may appear on the surface to be just a dinner gathering called to receive and to pay respects to a President of the American Osteopathic Association. Permit me to gainsay that thought only by antithetical reference to this guest as a 'very special' President of our national organization, whose ascendency to highest office and honor was foreordained or at least only a question of course for one of such signal intellect, ability and capacity to serve his fellow men. While his presence alone tonight would ordinarily mark this meeting as an auspicious occasion, there has presented itself a matter of exceptional proportion to be communicated to you, which, with kindly deference, this guest speaker has urged to be considered first leaving much of what he will say later to take the form of a response to the disclosure at hand. Accordingly, we will proceed forthwith with the material subject of this hour. In substance, it relates to the Educational Policy of the Philadelphia College for the Future.

"At a stated meeting of the Board of Directors of the College held December 18, 1935, it was

"Resolved, That the Philadelphia College of Osteopathy shall require two years of college work for admission thereafter.

"Now it should be apparent to you that the issuance of so exacting a mandate by those in final authority did not emanate without due consideration of the responsibilities and possible consequences entailed in such an action, along with an understanding of the many interests to be served. It is proper to declare here that one of the aims of the institution for a decade or more has been to assume a position of recognized height among professional schools by maintenance of accepted educational standards. Indeed, I will presume to the extent of making personal quotation on this aspect of our standing as a profession as expressed in an address before the New York State Osteopathic Convention, at Rochester, October 14, 1934:

"'The cardinal consideration of our being has to do with the standard of education maintained by our institutions. Our schools cannot escape the yardstick of standardizing agencies. Whatever comforts and satisfactions we take and experience in the advances and achievements made by our colleges, we, nevertheless, remain wide open to the gauge of objective rating, that is from without our own organization, whether we seek it or not and whether or not we welcome such. Those of us in the field of administrative endeavor are in a position to know that our schools are the criteria in accepted systems of appraisement. They thus become the principal determinants or expressions of osteopathic worth. All too vainly, yet valiantly, in the past have we laid our claims to reputability and equality. Today, having gone back over the ground to revamp and refine many of our basic processes we are in a position to present a front at least without trepidation or without sensible embarrassment. We must be prepared to toe the line with the professions in general. Understand please that medical education is by no means the test even if it appears to be the thunderbolt. But it does obtain that the standards set for and identified with the professions, as law, dentistry, the fine arts, medicine and the like, are looked upon as the standards that should be exacted for the osteopathic profession.'

"Ostensibly, a prime factor to be taken into consideration, when contemplating an increased preliminary standard, is the ability of the institution to effect a budget-balance during the initial period of operation of the new ruling, in that it is to be conceded that a falling off in numbers of students matriculating is to be expected. The Philadelphia College in its rejection of the proposed higher requirement to this time has consistently disavowed its preparedness to underwrite any sharp shrinkage in revenue from student tuition fees. Indeed, a total lack of endowment funds or other supportive resources is a condition that is unthinkable in an institution of the kind, as well as an issue that must be squarely faced and met. May I inject at this point a citation in this connection with respect to the subject of lacking endowments in osteopathic schools? Quoting from publication, Number 16, of the Committee on the Costs of Medical Care on 'The Healing Cults,' by Louis S. Reed, Ph.D., concerning osteopathic schools, 'One fact is of outstanding importance in this connection. It is impossible to make medical education of the present day pay its way. The equipment needed is so expensive, the facilities of instruction so expensive, that the fees which students pay go only a short way toward meeting the
costs involved. As a result, but a half-dozens of the medical colleges of the country even approximate being self-supporting; practically all have incomes from government appropriations, private endowments, or from the universities with which they are affiliated. In 1926-27, of a total of $11,308,800 expended by 63 medical colleges, but $4,057,304 came from students' fees. The osteopathic schools are not so situated; they are crippled for lack of funds. True, several of the schools have received gifts of buildings or money to pay for buildings, but such gifts have not been sizable except in the case of the Philadelphia College which in 1929 raised slightly over $1,000,000 to pay for a new school and hospital building. The Chicago College has some endowment (it is not known how much); the Kirksville School has an endowment of $50,000. With these exceptions, it appears that none of the osteopathic colleges is endowed, and each is able to give only the amount and quantity of instruction which its students can pay for. This lack of endowment is a serious limiting factor. The further advance of osteopathic education is largely dependent upon the degree to which osteopathic schools gain the favor of wealthy people.'

"This objective commentary on the dearness of capital and endowment funds at the disposal of our osteopathic schools may well be taken at face value. Whether or not various other findings concerning us, enumerated in the further accounting of our affairs in this publication, are accurate and impartial, we are in a position to know that the 'shoe fits the foot' in this specific case, and with your permission we will return to the subject of finances and fund-raising for brief discussion later herein together with several other specific needs of the institution.

"Reverting, then, to the immediate relationship known to exist in the College between numbers of students registered and required resources for satisfactory operation, at least permitting of a continuance of the present budget of expenses, your Board of Directors expressed themselves frankly and thoughtfully as being of the conviction that the need was greater at this time for approved educational standards than for mere sustained student numbers to keep the coffers replenished. Now, the divorcing of financial urgency from the picture of actual, academic operation, is by no means a matter to be affected by mere edict or stroke of the pen under ordinary circumstances. Your Board of Directors realize full well that other objectives, not only compensating in character, but creative and fortifying, must be undertaken. Such premises at this early date have not assumed the likeness or the proportion of a definite plan or a program to be followed. Nor is it the responsibility of the Board any more than it is our prerogative as a faculty and staff of the institution to be moved to the invention of or the necessity of promoting some soundly conceived method for underwriting both immediate and future needs of the College. For the Board, I would say that their gesture at this time is not one of speculation. Certainly our situation in general calls for the judicial treatment of Mark Twain in his terse admonition: 'There are two times in a man's life when he should not speculate; when he can't afford, and when he can.'

"Your Board in regarding osteopathy's fair name above figure or price or mercenary value has taken a laudable stand. It becomes at once our duty to countenance the edict with all due regard and furthermore to undertake with all possible dispatch analysis of those terms and conditions and needs with which we will be confronted in our new era of activity. It is to such considerations,—the defining of our objectives, the measuring of our strengths, the admission of our weaknesses, the avowing of intents and the fixing of purposes, that we are committed tonight. Let us, then, proceed to look at various aspects of tomorrow's institution.

PRELIMINARY REQUIREMENT

"This fundamental matter has consciously been introduced to you as a prerequisite of reputability. We may, however, well scrap it here and now as constituting the ultimate in determination of suitability for admittance to osteopathic study. The various regulations—two-year, three-year, degree requirements—governing medical training have aimed to define the content, length, and amount of premedical education. Individual medical schools have instituted requirements in addition to the minimum specifications. It is generally conceded in our own circles that the selection of students might better be governed by consideration of the qualifications of each individual to pursue the study of osteopathy, and should not be too sharply restricted by requirements which may or may not be essential. Determination of the pre-osteopathic requirements should be left to the individual schools. Regulatory bodies should not compel or attempt to define in detail the amount and character of subjects to be pursued. A sound general training is conceived to be of more value as a preparation for the study of osteopathy than a narrow, limited, arbitrary curriculum. Your President, here at my side, has most judiciously evaluated the preliminary education question for us. In his inaugural address at Cleveland he had this to say:

"'We must face the fact that osteopathy is in a transitional stage of development. The tendency throughout the country is toward an increase in preliminary and professional standards. It is the price we must pay for increased privileges, a price which is not always consistent with the ability of the several registered colleges to meet. Our colleges no longer have the same requirements for admission. This is a natural consequence of having such radical differences in state laws governing the practice of osteopathy. It is a logical procedure for colleges which are located in sections of the country where the high school diploma is the preliminary requirement for entrance to a college of osteopathy, to maintain no higher standard than that required. On the other hand, it is quite essential that some of our colleges meet the higher requirements of those states which will be closed to osteopathic graduates unless some college will meet the standards of one or two years of academic training for admission to the freshman class. We cannot afford to ask our midwest osteopathic colleges materially to re-
duce the number of matriculants by raising their standards beyond the present requirements. There is no question in my mind but that these colleges will raise their requirements to one or two years of college training as a prerequisite for admission just as soon as they find it financially possible.

"Introspecting, with regard to the outlook for the immediate future in the Philadelphia College, we realize that a two-year preliminary requirement automatically effaces our Pre-Osteopathic School with the completion of the current academic year. This means the elimination of possibly three dozen quasi-candidates for direct matriculation. Yet the inevitability of this College's assent to the raising of preliminary standards straightway is augured in the attending requirements of the neighboring states of New York and New Jersey for September, 1936. Without reference to the restrictions and specifications that go with them, both states will require two years of college work for admission this fall. The New Jersey requirement as enacted into law also calls for the completion of an internship of one year in an approved hospital following the professional course as a condition for privilege of taking the licensing examination in that state. It should prove of interest to you to hear that the Philadelphia Osteopathic Hospital has been officially inspected and rated as 'Approved for Internship' by the New Jersey State Board of Medical Examiners. The College also has been registered as 'Approved as a Teaching Institution,' so that future graduates can apply for examination in that State under the provisions of the changed medical law.

"The New York preliminary requirement, as you are well aware, does not concern the students of that state alone. The rules of the Board of Regents of the University of the State of New York are made to apply to all students entering the College, irrespective of native residence. Their standard of preliminary education must become the standard of the College if registration of the institution with that Department is to be maintained. In this connection it is in order to inform you that the Board of Regents are being petitioned at this time to stay the higher requirement until September, 1938 when the College will be in a better position to effect its provisions. We are hopeful that the 'breathing spell' until 1938 will be granted by the Regents.

**Selection of Students**

"The first restriction that shall obtain for the future with respect to the induction of classes is that the size in any case be limited to a number compatible with the teaching strength and with the determined ability of the institution to insur adequate facilities and rounded instruction in terms of the individual student, not on a basis of mass education and less upon resourcefulness, ingenuity or provision to effect ends. The learning of osteopathy is to be accomplished only through the intimate relationship of a student and a master teacher or clinician. We venture the opinion that the art aspects therein transcend the imperativeness of close association between teacher and student required in usual educational undertakings. This comes not alone from the exactitude and preciseness demanded for training in its methods and its spirit of scientific inquiry but as well from need for the inspiration and point of view which comes only from the closest possible contact with those who are devoted to osteopathic concept, research and practice. The student and the teacher, not the curriculum, are the crucial elements in the osteopathic training program.

"In effect, the whole question of selection of students for our college resolves itself into need for sensible appraisal of certain personal attributes in the individual case along with evidence of satisfactory academic training. If we proceed to look for physical and mental fitness, for character, personality, general culture and intellectual ability as well as for scholastic achievement among our applicants, we will be establishing a meritorious precedent.

"Without undertaking a full analysis, let us mention some types of students who now come to us and will continue to come. There are those who are 'steered' to Philadelphia by parents, relatives, practitioners or friends. There are those who come to us by reason of location. There are
those who are attracted to us by our reputation, whether due to recent advances, modern facilities or experienced teachers. There are those who are as yet undecided on a life work and venture the possibilities of a new-found order. There are those who are excluded for one reason or another from medical study and seek the counterpart within our doors. And, lastly, there are many, there will always be many, we trust, who inquire into the kind of education we give and like what they learn about us.

"Our students are subject to exactly the same influences that we are, except that they are of an age which perhaps responds more quickly to a variety of interests. A college curriculum cannot help but be influenced by them. It therefore behooves us to make quality the basis for admission. From this time on an ardent, discerning Faculty Committee on Admissions will function for the College, instructed to discharge its duty with care, wisdom and resolution. It will be admonished to resist the temptation to take more students merely to balance a budget.

**LEVEL OF INSTRUCTION**

"I am privileged to announce to you that it is purposed to adjust the tone and the pace of the curriculum to the superior students. Following upon our studied effort to more nearly select proper students for admission, with some discrimination we can drop out the obviously unfit student. It is not good for him, not good for the college or for osteopathy that he should continue. Without here going into the possible criteria that may be employed to test and check intelligence quotients, alertness, industry, resourcefulness and scholastic ability, we may assume that in the ordinary order of things two groups may be expected to resolve themselves into being in a given class. Certain students by their natural equipment or by their training or by their ambition, or by a combination of qualities will stand out as higher grade material than the rest. Others, because of less interest, or their poorer natural gifts, or their lack of ambition, are the inferior or purely commonplace element. May we not wisely arrange our college course especially for the first group? Why should the college years of the better group be made less valuable by the effort to give the maximum of improvement to the lower group? Frankly, this is what we have been compelled to do in the past, although our inclinations have run the other way. Undoubtedly, many applicants should have been dissuaded by college advisers and others from continuing their plans. By requiring evidences of achievement and promise from our students and by setting the intellectual level of the class, rather than letting the weaker students compel the pace, we will have done much toward the ultimate refining and perfecting of our products. May we not with such a will wholesomely expect quickened interests within our walls and eventual challenge to leadership in the realms of practice? We know that we cannot make leaders. Nature seems to pick out her own leaders. What we can hope for is that those who prove to be leaders in later life will be the better leaders because of the training we have given them.

**CURRICULUM**

"There cannot be anything static or fixed about a curriculum. The osteopathic course must adjust itself, in schematic form at least, to any growth of knowledge or specialized skill. It is a great task, that of assembling and selecting from among the various possibilities, from among the wide knowledge and experience in all phases of medical and osteopathic science and practice, those that are most worthwhile. There are many across the country who have viewed with concern the enterprising tendency of our college administrators to fashion their programs to changing conditions and needs. They would have us fire our students with the gospel and the fervor of the waning 19th century and count us blessed, indeed. There are those who would have us course our ship ignobly with the medical flotilla, hoping vainly to escape molestation through veneered orthodoxy. Somewhere, sanely between these extremes our schools have beaten a path doggedly toward an ideal objective—a curriculum devised to afford a sound grasp of the fundamental aspects of osteopathy and a rounded preparation for osteopathic practice. As the horizon shifts in the light of knowledge and research, our programs must be squared in conformity. There can be but small place for dogma in such an undertaking. The crucial element in osteopathic education is the student. Osteopathic tenets must be learned and respected by the student if he is to develop judgment, discrimination, and intellectual self-reliance. Osteopathy is not to be considered as an isolated field but an integral part of scientific knowledge and must be correlated with the other major divisions of learning. Osteopathic fundamental teachings will be strengthened rather than diminished in being diffused into fields of investigation and into interests commensurate with the aims and ends of other educational and intellectual endeavors. We must do more than strive to make the student competent in the fundamentals of osteopathy which may be considered essential for a safe practitioner. A broader purpose of our work, aside from necessary regimentation and the traditional features of teaching, should be to stimulate intellectual resourcefulness and sound habits and methods of study, realizing that the degree of scientific interest inculcated into our students by us will largely determine the scientific level and the capacity we may expect our profession to reach and to assume in the next generation.

**METHODS OF INSTRUCTION**

"We confessedly must lessen the amount of didactic and passive, mass presentations. Our higher preliminary standard will do much to make this possible. It will permit of a levelling process whereby subjects may be adjusted to the general course in proper sequence. We profess to have made our greatest educational advances in the basic science subjects of the curriculum in the last decade. They have been perceptibly improved to the point of paralleling the methods of instruction, the motivation and the pedagogic procedures usual to offerings on these subjects in accredited colleges and universities. Just recently one of our demonstrators who also conducts classes in the same subject at the University of Pennsylvania expressed confidence that the program
in which he participates with us is carried out equally as effectively as that observed in the University.

'Now with respect to our ability to correlate the Sciences with Osteopathy and with Clinical Osteopathy of the upper class years, we are at this time able to say that we have but made an impressive beginning. We believe that we comprehend our needs, that we recognize possible weakness, and that determined and concerted effort on our part will bring about further positive indications of balanced and coordinated training. The splendid character of material as well as the force of presentation noted in connection with the teaching of osteopathic principles in our College is a source of great satisfaction to us. Along with orderly, systematic platform, section, bedside and clinical instruction in osteopathic technique, a greater impetus to our basic osteopathic tenets and procedures has been realized than ever before. The philosophy of osteopathy must be a constant quantity in every detailed effort of the institution's instruction program. During the past two or three years our program of clinical and hospital instruction, designed and carried out in accordance with a definitely conceived catalogue of purposes and needs, has become the subject of much favorable comment. Indeed, the wholesome interest that our plan of operation has provoked elsewhere should serve to qualify it as one of the foremost appeals to reason for sending students to the Philadelphia College. There is nothing that can approach the idealness of a close student-clinician relationship. The osteopathic course must be considered as a unit, not as a series of isolated fields of science and separate clinical divisions. The student must be provided with an understanding and insight into the mechanisms and the functional changes in disease processes and with a direct personal experience at the bedside, in the clinic and the laboratories. There is no substitute for the master clinician in the clinical fields of instruction. And the benefits to the student from small section instruction, conferences, clinical clerkimg, bedside technique, the case method of teaching, and similar schemes, are well known to you. These considerations your students are receiving in the Philadelphia College at this time. For the future we must see to it that added investments, improved facilities, and eminently qualified man-power make possible further attainments and refinements along these lines.

Post-Graduate Osteopathic Education

'We have repeatedly held that the greatest conceivable need of our profession, aside from capital and endowment funds for our institutions, takes the form of opportunity for graduates in the field to pursue advanced work, to broaden their training, to receive the benefits of instruction in newer ideas and more recent methods. It is obvious, at this time, that the established schools offer the greatest hope for initiating programs along these lines. They are, logically, the centers in which all the newer theories and methods should be under active discussion, investigation and exemplification. It is axiomatic that high type students and practitioners will seek such centers for the benefit of contact with this newer or advanced knowledge during brief or extended periods, according to the circumstances in each case.

'The Philadelphia College has indisputably assumed the leadership thus far with respect to opportunities for graduate study. The needs for post-graduate courses, for expanded internships, the creation of fellowships and opportunities for productive research were duly recognized a few years ago and at this stage we are able to point to remarkable developments. Clearly, the Philadelphia institutions (College and Hospital) have a particular advantage in this field. They have the accommodations, equipment, professional workers, and clinical problems which, with proper organization, can form the essential units for the continuation education of doctors, research workers, educators and administrators. Our position, in this special sphere of service, although it is a recently acquired one, is being watched with great interest across country. Queries concerning possible placements and opportunities are coming to hand from distant points. Doctors who have been out in the field of practice for years seek to return for full year courses of instruction. We point this out to you as a healthy sign, for previously most calls and opportunities were for brief and specialized (surgical) privileges. Today, there are registered within our walls a total of 100 graduate osteopathic physicians pursuing definitely conceived courses of instruction. More than a score are already registered for the next academic year. Formulation of a brief intense graduate course for the month of June or July is under advisement at this time. This feature of our service to the profession at large is known to carry reciprocal benefits. We may record here that the Philadelphia College has unqualifiedly become better known and respected in the past two or three years as a result of the graduate opportunities accorded to discriminating and discerning practitioners in the field. "But a barrier already looms up portentiously. It takes the form of limited facilities and bed capacities. Graduate education will be paralyzed in its genesis unless expanded facilities are projected into our picture. The central core of osteopathic knowledge, when considering the graduate student, lies in the lap of the institution's administrators. It is placed there considerately by the intellects of the teaching personnel with the sagacious counsel that they can proceed only if quarters and teaching beds are made available. There can be no serious thought about continued and increased programs without these essentials and sine qua nons. In a word, then, we must face squarely the realization that a move must be made by us to consider ways and means of taking a next step in our building program. How this can be brought about may be open to conjecture. But it is a closed matter that the responsibility of suggesting, of stimulating, of supporting some appropriate plan lies clearly within the privilege of this college body.

Research

'The January number of the Journal of the A.O.A. reached my desk this forenoon. Its editorial pages contain an analytical, intelligent, fearless (Continued on page 83)
PLANS COMPLETED FOR GALA CHARITY BALL AND DINNER

CLYDE LUCAS AND HIS CALIFORNIA DONKS ENGAGED FOR MUSIC

SURPRISE ATTRACTIONS PROMISED

The Biggest and Best Charity Ball of them all is on the way! This will be good news for those who have waited impatiently for a repetition of last year's brilliant social, and good news for those who are anticipating their first enjoyment of Philadelphia's most spirited ball.

Washington's Birthday, Saturday, February 22nd, is the time; the Penn A. C. Grand Ballroom, 18th and Locust Streets, is the place. And the entertainment? Oh, oh! We're coming to that; but let us first review briefly the history of the Philadelphia Osteopathic Hospital's annual Charity Ball.

For three years, since its initiation in 1933, the Charity Ball has grown in financial success as well as in entertainment value. Just last year the Ball Committee was able to turn over to the Hospital Clinic $5,400—an astounding amount when you stop to think of the cost of presenting this enterprise. And this year the Committee confidently hopes to turn over an equal sum.

In 1933 the Ball was held at the Bellevue-Stratford Hotel, and featured such stars of stage, screen, opera and radio as Agnes DeMille, Kate Smith, Chief Caupolican, Florenzo Torso, and Harold Clyde Wright, of the famous Roxy Gang. Music was provided by Lombardo and Whiteman units.

Because of the success of the first Ball, the Committee felt justified in engaging more spacious quarters for the 1934 event. The Grand Ballroom of the Penn A. C. was the answer. An innovation, in the form of a dinner preceding the dance, was introduced and met with popular acclaim. Music was played throughout the dinner by Horace Hustler and his orchestra, and the Lee Sisters and Vera Nivna entertained with songs. Promptly at ten o'clock, Peter Van Steeden and his 'N. B. C. recording orchestra began the Grand Ball. Kathleen Wells, the charming, dark-haired soprano, whose rise to fame was so tragically halted last fall, sang her way into the hearts of all who were present, and Harold Richards, an accomplished tenor, joined her in interpreting refrains of many of the Van Steeden arrangements. In addition to this four-star music and song, the big crowd thrilled to a stage show which included such renowned performers as Finn Williams, Will Mahoney, the four Franks, Kenneth Harlan, and William O'Neal.

Nineteen thirty-five again saw the Penn A. C. the scene of the Charity Ball. This time 450 people attended the dinner—double the number that came the preceding year. And this time, colorful floor shows from Jack Lynch's Café Marguary, from the Hotel Pennsylvania and from the Walton kept the diners continually entertained.

Peter Van Steeden and his fine band were back again by popular demand to provide the music for the Ball, and Kathleen Wells was with him once more. At midnight he broadcast a half-hour program over a nation-wide N. B. C. network, as he had done the year before. Following the big broadcast, Miss Wells picked the winning numbers in the Annual Gift Contest conducted by the Clinics, and three lucky people found themselves the happy possessors of a 1935 Ford car, a trip to Bermuda, and a Philco radio—first, second, and third prizes.

Now to get down to the 1936 Charity Ball, which we promise, you remember, is to be the biggest and best ever.

The Penn A. C. Ballroom is to be decorated lavishly in celebration of Washington's Birthday, and those who come for the sumptuous dinner, which is to be served promptly at seven P. M., will be entertained from the moment they arrive until the Ball ends at 2:30 A. M. Reservations for tables have been coming in fast, and a conservative estimate of the number of diners is seven hundred. So reserve your table now if you want your
name on the menu card, and if you want to save time in being seated upon your arrival.

During dinner you will be lulled by the music of three of the city's leading bands: Joe Frasetto's Hotel Pennsylvania Orchestra; the Hotel Adelphia Orchestra; and a broadcasting unit from radio station WCAU.

As for floor shows—just listen: Arcadia, the International Restaurant, is sending its complete show (and Eddie Duchin will be along to play a number or two); Jack Lynch is bringing his great show from the Café Marguery, of the Hotel Adelphia; and the Hotel Pennsylvania is sending its fine Mirror Room show. Also Charlotte Ridley, of the Curtis Institute, who recently won the National Prize offered by the National Broadcasting Company, will sing for you, as will Carlotta Dale, popular WCAU singer.

Do you ask who will provide the music for the Grand Ball? We answer proudly—none other than Clyde Lucas and his California Dons, who have been captivating thousands of blasé New Yorkers during the past year by their smooth rhythms played in the Terrace Room of the Hotel New Yorker. This band, which can be heard every Wednesday evening over WJZ from 8:00 to 8:30 on a coast-to-coast broadcast, is without much question the most popular musical ensemble in New York at the present moment. 'Nuff said.

Mr. Lucas and his merrymen will send a program over the ether on a nation-wide NBC hook-up from 11:00 to 11:30 P. M. direct from the Ball. With him will be those famous radio song stars, Irene Beasley, Phil Duey, Charlotte Ridley and Carlotta Dale.

On the stroke of midnight distribution of the gifts in the Annual Clinic Gift Contest will be held. And the gifts are more desirable than ever! Here they are: a 1936 Ford coach; a trip to Bermuda; an electric refrigerator; a Philco auto radio; and a chest of Community silverware! Remember—if you want one of these fine gifts, you must buy gift tickets. Gift books are $5.00 and contain fifty gift tickets. Remember also that every ticket you buy helps the Osteopathic Clinic immeasurably in its humane work.

Once more let us remind you that the dinner starts on the dot of seven P. M. and the Grand Ball at ten P. M. Dancing last until 2:30 A. M. The cost of the dinner is only five dollars per couple. The Ball tickets are also five dollars per couple.

The following have already reserved their boxes: Dr. and Mrs. Donald B. Thorburn, American Osteopathic Association; Dr. and Mrs. Edgar O. Holden, Dr. and Mrs. James N. Eaton, Mr. and Mrs. Charles Q. McDonough, Dr. and Mrs. J. Ernest Leuzinger, Dr. and Mrs. H. Walter Evans, Philadelphia County Osteopathic Society, Dr. and Mrs. Edward A. Green, Dr. and Mrs. O. J. Snyder, Dr. and Mrs. D. S. B. Pennock, New Jersey Osteopathic Society, Dr. and Mrs. Joseph F. Py, Dr. and Mrs. Leo C. Wagner, Dr. and Mrs. George S. Rothmeyer, Dr. and Mrs. C. Haddon Soden, Dr. Carlton Street, Dr. and Mrs. William Otis Gallbreath, Dr. and Mrs. Earl H. Gedney, Dr. C. D. B. Balbirnie, Dr. and Mrs. Joseph F. Py, Graduate School of P. C. O., Alumni Association and Dr. Theodore Stiegler.

A PLEA

If you are contemplating buying corsages or flowers for the Charity Ball, don’t do so until you arrive there. Flowers, appropriate for any gown, will be on sale very reasonably by the Ball Committee. Your buying them will help the Clinic!

CARLotta DALE

MAKE DINNER RESERVATIONS EARLY!

Do you want to be sure of having a table for the greatest single night's entertainment of the year? Do you want to be sure of being up front:

Four great floor shows from Arcadia, the International Restaurant; from the Mirror Room of the Hotel Pennsylvania; from Jack Lynch's Café Marguery of the Hotel Adelphia; from Mickey Alpert's Penthouse, atop the Hotel Walton!

Eddie Duchin and His Society Orchestra, featuring Eddie's nimble piano arrangements!

Famous New York artists of song and dance!

Singers and entertainers from WCAU Artists' Bureau!

Irene Beasley, famous NBC "charm singer!"

Phil Duey, NBC crooner extra ordinary!

Clyde Lucas and His 16 California Dons, the rhythmic dance sensations of the continent. Walter Winchell O. K.'s them! Says W. W.—"Clyde Lucas and his crew rate orchids . . . Swell band!"

Miss Helen Hayes, first lady of the American stage, who will be present at the Grand Draw!

And Surprises, Surprises, Surprises!

Now do you want to be sure of your table? Then:

MAKE DINNER RESERVATIONS EARLY!

Call ALLehny 9300 or SHErwood 9090 now!
THE ALUMNI ASSOCIATION'S FOURTEEN YEAR PLAN—By DONALD B. THORBURN, D. O.

The fourteen year plan has been started. The logical step has been taken. This is to herald no climatic change in the affairs of the Alumni Association, but is another important step following the many that have gone before. It has come to the point where we are now ready to start in earnest.

Every city has its own problems. In New York, as probably elsewhere, by the time one subway is built we need two; if we build one tunnel to New Jersey immediately we need a second. In Philadelphia we hardly have completed one Osteopathic College and Hospital than we need another. Well, we need a wing anyway. Everyone even remotely connected with the institution will not only admit it but will state it emphatically. Sometime or other of course it’s got to come, and sometime or other we’ve got to have a real library and an even better museum than we now have, and endowments and all the things it seems I’ve been writing about ad infinitum.

Now this doesn’t mean that there is to be a hysterical seeking after funds. There is to be no high pressure campaign to be lived through, leaving us panting and spent—or broke—at its finish. Not at all. This is to be a development of the alumni organization and a greater cohesion of its units at the same time that we are developing its finances. The point is that we aren’t after people’s money. At least not entirely. We need money, but above all we want their interest, for if we have that they’ll give all they reasonably can, and that’s enough for anyone.

In 1949 the College will observe its fifteenth anniversary. Its Alumni Association at this time is setting that date as the time when it will have raised a sum of fifty thousand dollars to be used for the advancement of Osteopathy as represented by the Philadelphia College of Osteopathy. That really is a small sum when one thinks about it. The time limit is fourteen years away. It takes very little imagination to see that sum raised when graduates begin to appreciate fully their responsibility in the matter.

When we think of the fifteen hundred graduates of Philadelphia College of Osteopathy giving five dollars apiece each year we see the sum in question easily reached. And it is safe to assume that many will give a lot more than that. It is also safe to assume that some will give nothing, but I’m sure, as the matter is brought to the attention of Philadelphia college of Osteopathy’s loyal alumni, that the non-givers will come to be more and more of a select society and will finally vanish altogether.

I hope this talk about money isn’t frightening anyone off because there isn’t much more of it and there are some other very important things to be said.

For one thing I am referring to the message of the Dean on another page. He makes the very important announcement that beginning in 1937 the Philadelphia College will impose a two-year pre-osteopathic requirement. This means that the Board of Directors, the Faculty and the Dean have sufficient confidence in Osteopathy’s future to be willing to start from scratch. They are willing to do this knowing that in the final analysis to raise the requirements of a professional school is to raise the standards of the profession it represents. Nothing but good will come of this if the alumni will help. A college that will rise to every occasion as Philadelphia College of Osteopathy does must be supported. It should receive the very highest quality of student and its problems should receive the understanding sympathy of its graduates.

In a recent issue it was announced that plans were under way to have the College represented by one of its alumni in every society in the East and South. The cordial reception with which these attempts have been met is heartening indeed. Particularly encouraging was the response where the initial letter was directed to a graduate of another osteopathic school. Without exception the information asked for was furnished and with it good wishes or a few words to show his appreciation of the Philadelphia College as an important part of Osteopathy in the East.

In a very short time the organization of our Alumni Association will have a representative in practically every osteopathic society in this section of the country. It is a tremendous inspiration to receive the letters of acceptance and realize that the alumni of Philadelphia are being brought into closer contact with their college.

THE DEAN GOES TO LANCASTER

Particularly satisfactory it was, too, to visit the Philadelphia College of Osteopathy Alumni Association of Lancaster. When the Lancaster county society seemed unable to carry on, the alumni of Philadelphia College of Osteopathy in that vicinity got together and formed their own society. They have a thriving one indeed. They have a good turnout at every meeting, including some visitors in the form of graduates from other colleges; but it is first and foremost an association of alumni of the Philadelphia College of Osteopathy. It is the only one in existence.

In company with Dean Holden the writer paid a visit to this unique organization a few nights ago. The discussion centered in the future of the Philadelphia College and the recognition of its growing importance to Osteopathy. Dean Holden discussed the more intimate details of the College, showing how every precaution is being taken to safeguard Osteopathy, its principles and the standards of its personnel. Certain it is that no institution could be run more efficiently and with greater degree of coordination than is Philadelphia College of Osteopathy by the dean and his faithful faculty.

Philadelphia’s fourteen year plan was mentioned and received with great enthusiasm. Altogether it was a fine gathering of those to whom the Philadelphia College represents their parent in Osteopathy.

The message to the alumni is one of courage and inspiration. Great days for osteopathy are at hand. There is
no doubt that the East looks to the Philadelphia College for leadership. In turn the College looks to its graduates for support in this leadership.

**ALUMNI ASSOCIATION ANNOUNCES EXPANSION PROGRAM**

The Philadelphia College of Osteopathy continuing with its expansion plan in education has not neglected its Alumni Association. Through the efforts of Dr. Donald B. Thorburn, President, a definite organization plan has been established with units in many states where Philadelphia College of Osteopathy graduates are practicing.

Dr. Thorburn, through his tireless efforts and determination to create a larger and more influential Alumni Association, has succeeded in interesting a large number of Philadelphia College Osteopathy graduates who have responded enthusiastically to this plan and idea.

The following physicians have accepted the appointment as alumni representative in their local society with the hope of bringing together their own graduates and to stimulate more interest in the Osteopathic College and Hospital of Philadelphia.

- Dr. James T. Berry, 478 Framington Avenue, Hartford, Conn.—Connecticut Osteopathic Society.
- Dr. Fred B. Cushman, Ellsworth, Maine—Maine Osteopathic Association and Eastern Maine Osteopathic Society.
- Dr. Richard J. Dowling, 16 Bull Street, Newport, R. I.—Newport County Osteopathic Society.
- Dr. C. Wallace Evarts, 832 N. Highland Avenue, Atlanta, Ga.—Georgia Osteopathic Association.
- Dr. C. O. Gaskill, 128 Merchants Row, Rutland, Vt.—Vermont Osteopathic Association.
- Dr. Stephen B. Gibba, 935 Lincoln Road, Miami Beach, Fla.—Dade County Society of Osteopathic Physicians and Surgeons.
- Dr. Basil F. Martin, Snell Building, St. Petersburg, Fla.—Pinellas County Osteopathic Society.
- Dr. Addison O'Neill, Box 267, Daytona Beach, Fla.—Volusia County Osteopathic Association.
- Dr. Gerald A. Richardson, Mount Dora Hospital, Mount Dora, Fla.—Lake County Association of Osteopathic Physicians and Surgeons.
- Dr. Robert A. Steele, 765 Main Street, Worcester, Mass.—Worcester District Osteopathic Society.
- Dr. A. B. Smith, Fairmont, W. Va.—Monongahela Valley Osteopathic Society.
- Dr. Dorothea Willgoose, 920 Highland Street, Needham, Mass.—Middlesex South Osteopathic Society.
- Dr. Elfrede Winkelmann, 39 Elm Street, Lebanon, N. H.—New Hampshire Osteopathic Society.
- Dr. George E. Heibel, 817 Guaranty Bank Building, Lexington, Kentucky—Kentucky Association of Osteopathic Physicians and Surgeons.
- Dr. Vincent H. Ober, 409 Bankers Trust Building, Norfolk, Va.—Virginia Society of Osteopathic Physicians and Surgeons.
- Dr. Kenneth H. Wiley, 646 Parkway Drive, N. E., Atlanta, Ga.—Osteopathic Society of Greater Atlanta.

**ADmiral Byrd Breaks Captain Cook's Record**

Just 160 years ago, Captain James Cook, great navigator and explorer, whose voyages of discovery mapped the Pacific and carried him farther into the Antarctic than anyone else had dared go, sat down and wrote in his diary that "the lands which may lie to the South will never be explored."

In his famous ship, the Resolution, he had just escaped from the perils of fog, ice and intense cold which beset the South Polar seas.

"It is true," he wrote, "that the greatest part of this southern continent must lie within the Polar Circle where the sea is so pestered with ice that the land is thereby inaccessible. The risk one runs in exploring a coast in these unknown seas is so very great that I can be bold enough to say that no man will ever venture farther than I have done and the lands which may lie to the South will never be explored."

Admiral Byrd, who comes here to tell the thrilling story of his latest Antarctic Expedition (1933-35) on Saturday, March 28th, at the Metropolitan Opera House in Philadelphia, illustrated with 9,000 feet of marvelous motion pictures, is the one leader who has ventured farther than the great British explorer into this vast unknown area in the Pacific quadrant of the Antarctic Circle.

"For many years my curiosity had been attracted by that strange bulge of white unexplored space jutting into the Pacific Ocean in the Pacific Quadrant between the 170th and 120th meridians West," wrote Byrd in a report of his recent explorations. "Somewhere behind it lay the most extensive stretch of undiscovered coastline on the face of the earth. Since the time of Cook, innumerable explorers had tried in vain to make a break through, only to find the way barred, as he had, by mountains of ice and a pack of impenetrable thickness. After leaving New Zealand, instead of laying a course direct for Little America, I resolved to try to cut away some of this unknown.

"An unprotected iron ship like the Rappert was a poor weapon with which to engage the worst pack ice in the polar seas, but we fortunately had another string to our bow. Cocked on a special tiered pedestal on the after deck was our twin-engined Condor biplane, William Horlick; in New Zealand it had been equipped with floats. It was our intention to press the vessel as far into the pack as seemed practicable, and when she was stopped, to renew the attack by air. These tactics proved extremely successful, risky as they were."

One of the greatest achievements of the recent Byrd Expedition is that by means of these ship and airplane flights, Byrd has mapped 450,000 square miles of this hitherto undiscovered territory. And how it was done as told by Admiral Byrd in word and picture, is but one of the many high spots of adventure in his fascinating recounting of his recent experiences.
Eastern Osteopathic Association, Inc., Announces Sixteenth Annual Convention

The Sixteenth Annual Convention of the Eastern Osteopathic Association will be held Saturday and Sunday, March 28th and 29th at the Hotel Pennsylvania, New York City. Among the speakers will be Dr. Thomas R. Thorburn, President of the American Osteopathic Association; Dr. John E. Rogers, Vice-President of the American Osteopathic Association; Dr. George M. Laughlin, President of Kirksville College of Osteopathy and Surgery; Dr. Harry M. Vastine of Harrisburg, Pa.; and Dr. Ruth Elizabeth Tinley, Professor of Pediatrics at the Philadelphia College of Osteopathy.

Program

Dr. Carter H. Downing, San Francisco, California.
1 hour. "A New and Scientific Advance in Pastural Mechanics."
1 hour. "The Shoulder (Osteopathic Complications and Treatment)."

Dr. Lionel J. Gorman, Boston, Mass.
1 hour. "Pre-Natal Care."
1 hour. "Proctology."

Dr. George M. Laughlin, Kirksville, Mo.
1 hour. "Reminiscences About A. T. Still and Some of His Early Work."
1 hour. "Surgery." (Something practical that the general practitioner can take home and use.)

Dr. Wallace M. Pearson, Kansas City, Mo.
1 hour. "Fifteen Bottles on a Four-Foot Shelf Whose Contents Will Never Barrass an Osteopathic Physician."
1 hour. "What Shall I Promise This Patient?" (A demonstration of the need for accuracy in treatment and in the consideration of certain osteopathic principles. Illustrated with X-ray films.)

Dr. John E. Rogers, Oshkosh, Wis.
1 hour. "Osteopathic Education."

Dr. Ruth Elizabeth Tinley, Philadelphia, Pa.
1 hour. "The Osteopathic Aspect of Pediatrics."

Dr. Harry M. Vastine, Harrisburg, Pa.
1 hour. "Why Were the Late Nineties Spoken of as the Golden Age of Osteopathy?"

Dr. Thomas R. Thorburn, New York City.
Address by the President of the American Osteopathic Association.

Osteopathic Lecture Team Proving Popular

Our Registrar, Dr. Edward A. Green, and Harold M. Osborn, Junior student, have been visiting high schools as a team, with very effective results, both selling Osteopathy and the Philadelphia College of Osteopathy.

A college night was observed at Rockville Center, New York, and Dr. Edward A. Green represented the College with a booth and furnished the necessary information to hundreds of high school applicants for further educational advancement.

Harold M. Osborn is becoming a very forceful speaker. Due to his ability to demonstrate his standing and running high jump clearing 6 feet within a limited space, he is making a big hit with high school students.

The team works out very effectively with Dr. Green giving them the requirements and Osborn his personal experiences and osteopathic demonstration.

Phoenixville High School, at Phoenixville, Pa., Souderton High School, at Souderton, Pa., Hatfield High School, at Hatfield, Pa., Perkiomen School, at Pennsburg, Pa., and at the football banquet at Phoenixville found both men making a big hit.

An elaborate program is being arranged for Osborn to continue in this type of work, in addition to his formal competition every Saturday night in all the outstanding national track and field meets.

Osteopathic Hospital

The Economics section will gather data about helps in practice, protective insurance, fees in different sections of the country and many other aids to a successful practice.

How to advertise and how not to; the proper consideration of the other fellow, etc. Write to THE DIGEST—Your Problem or Question.

New Baby Clinic Planning Extensive Program

The increased demand upon the Maternity and Pediatric Clinics by mothers and children desiring more care and attention, has made it necessary for Dr. H. Walter Evans and Dr. Ruth E. Tinley to find suitable quarters to carry on more extensive work outside of our own Clinics at the Osteopathic Hospital.

After careful planning and investigating, a committee found a building at 321 W. Lehigh Avenue that answered this purpose. It was necessary for these two active pioneers to develop an institution that needed equipment, material, instruments, and other necessary changes in order to make a Baby Clinic acceptable to both physicians and mothers.

Through the courtesy and financial assistance of Mr. L. E. Graff, President of the Haddonfield National Bank, of Haddonfield, N. J., the Baby Clinic at 321 W. Lehigh Avenue became a reality and now promises to be one of the outstanding Baby Clinics in the city of Philadelphia.

It is the aim of Drs. Evans and Tinley that this institution at Lehigh Avenue shall continue and spread their work to other sections of Philadelphia, so that in time, the East, West, and South will have a building and Baby Clinic under their direction. They are looking forward to further financial assistance from other people interested in this specific type of work.

Consultation Department Organized

Dr. E. M. Coffee has organized a Consultation Department in reference to law, economics and ethics. A library consisting of the medical and osteopathic law of every state or country in which osteopathy is practiced will gradually be assembled and be kept up to date so far as possible.

The Economics section will gather data about helps in practice, protective insurance, fees in different sections of the country and many other aids to a successful practice.

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Dr. Tomajan Chief Physician for Ramblers Hockey Team

Dr. Karnig Tomajan, Chief Resident of the Osteopathic Hospital, is the official physician for the Ramblers' Hockey Team, now leading the league. Our enthusiastic hockey physician does not miss any of the games and can be heard at times throughout the entire Arena in his enthusiastic approval of good play by his boys.
THE GRADUATE SCHOOL
of the
PHILADELPHIA COLLEGE OF OSTEOPATHY
announces its
ANNUAL INTENSIVE REVIEW COURSE

JULY 6TH to 15TH INCLUSIVE

CUSTOMARILY offered during the first two weeks in June, in response to request for same and following upon due consideration of the subject by the Faculty Committee on the Special Post-Graduate Course, the dates noted above have been determined for this year's offering to the profession. Realizing the desire on the part of many physicians who want to visit the College and Hospital on their way to the National A. O. A. Convention in New York beginning July 20th, the date of the Post-Graduate Course has been changed to July 6th, in order to give physicians an opportunity to first attend the ten day Review Course.

Plan to visit this institution en route to New York City in July
A Review of the Processes of Blood Formation and Blood Destruction to the Mechanism of the Production of the Anemias

Otterbein Dressler, D.O.
Professor of Pathology

THE term "anemia" is somewhat vague, in a pathologic sense. However, for our purposes today, we are satisfied to use the dictionary sense of "any reduction of quantity or quality of blood." Into this definition, we believe, can be read those things which we have come to recognize as the conditions of anemias.

Blood is an ever-changing solution of extreme complexity. Some of its elements are short-lived and are ever being replaced by new ones. Its chemical elements are constantly being used and added to. It is amazing that with these exchanges going on in the discharge of its duties, the composition of the blood in health does remain comparatively constant; or shall we say constant within a narrow range.

In pathology we teach that disease represents nothing fundamentally new. Various structures and functions may be accelerated or depressed, they may be perverted or they may be stopped, but these changes represent nothing fundamentally new! The anemias, as we have defined them above, must then represent not new things in blood, but rather perversions or quality of the elements of blood. The anemias remove these conditions from the prevailing processes of blood formation and blood destruction. Concomitant with their reduction in size and accumulation of iron their nuclei become slimmer, they may be perverted or they may be stopped, but these changes represent nothing fundamentally new! The anemias remove these conditions from the prevailing processes of blood formation and blood destruction. Concomitant with their reduction in size and accumulation of iron their nuclei become smaller and are eventually lost.

The erythrocytes have their origins in the myeloid tissue (organ) of bones. In the fetus and early youth this marrow organ is widely distributed occupying most of the bones (perhaps other organs as well) and composes a bulk greater than that of the liver. By adolescence this marrow organ has been confined to the spongy portions of flat bones; notably the ribs, the sternum, and the bodies of the vertebrae, and the spongy ends of long bones, chiefly the femur and humerus.

The erythrocytes have their beginnings as erythroblasts or macro-normoblasts. These are very large, nucleated, non-iron containing cells. As they grow older they become smaller and accumulate iron-containing hemoglobin. Concomitantly with their reduction in size and accumulation of iron their nuclei become smaller and are eventually lost. It is convenient (though not absolutely true) to think of this myeloid organ as consisting of a series of funnel like structures. The narrowest portions open into the blood stream. Under normal circumstances the erythrocytes are not allowed to pass this "funnel neck" until they have lost their nuclei and are sufficiently reduced in size. True, it is possible for this "sluice gate" to be opened too wide in disease and allow larger and less mature elements to pass into the blood stream.

General Features of Erythrocytes and Hemoglobin

The erythrocytes of circulating blood average 7.5 micra in diameter and number approximately 5,000,000 per c.mm. This number is accepted as 100 per cent or normal, for convenience in Hematology. It will be noted that the percentage of erythrocytes can, by using this number as 100 per cent, be computed by multiplying the first two figures of erythrocyte counts over 1,000,000 by 2. This process we see that an erythrocyte count of 2,000,000 constitutes 40 per cent.

This number of erythrocytes will carry between 13 and 18 grams of hemoglobin per 100 c.c. of whole blood. This wide variation of hemoglobin content is dependent upon geographical location. In Philadelphia we are using 15 Gms. as 100 per cent at the present time. (A better estimate is 13.7 gms. for the female—15.4 gms. for the male). It is important to know relatively how much hemoglobin is being carried by each erythrocyte. This can be accomplished by dividing the percentage of hemoglobin by the percentage of erythrocytes. The abstract number obtained is called the "color index." Thus, if the erythrocyte count is found to be 5,000,000 per c.mm. (100 per cent) and the hemoglobin is 100 per cent (15 gms. in Philadelphia) the color index will be 1. This means that each erythrocyte is carrying its normal quota of hemoglobin. On the other hand if the erythrocyte count is 4,000,000 (80 per cent) per c.mm. and the hemoglobin 64 per cent; the color index will be 0.8 indicating that each erythrocyte is carrying only 0.8 as much hemoglobin as it should.

If a volume of uncoagulated blood is centrifuged the erythrocytes will sediment out and...
Pack in the bottom of the tube because of their greater specific gravity. If there are 5,000,000 per c.mm. and they average 7.5 microns in diameter they will make up a bulk of 46 per cent of this volume. The volume of erythrocytes in any specimen of blood can be determined in the same way and the percentage of normal will be the quotient obtained by dividing the volume obtained by the normal volume (46 per cent).

It is desirable to know the average size of the erythrocytes. This can be expressed as an abstract number just as we saw with the color index above, by dividing the percentage of normal volume by the percentage of erythrocytes. Thus, if we were to find a volume of erythrocytes making a bulk of only 25 per cent of the whole blood this would be 55 per cent of the normal volume. If the number of erythrocytes were 3,000,000 per c.mm. that would be 60 per cent of the normal number of erythrocytes. The results of division would show a fraction 0.91 indicating that the average erythrocyte is only 0.91 times as large as it should be. Such an abstract number is spoken of as the volume index.

The color index expresses as an abstract number how much hemoglobin each erythrocyte is carrying, the volume index expresses the average size of the erythrocyte. If the color index be divided by the volume index a third abstract number will be obtained which will tell whether or not the erythrocyte is saturated with hemoglobin. Such a saturation index is of considerable importance.

THE DESTRUCTION OF ERYTHROCYTES

The life expectancy of an erythrocyte probably lies between ten and forty days. They gradually wear away their useful properties and approach a state of senile inefficiency. The macrophages then withdraw them from the circulation and destroy them by digestion. The chief location for this process, in the adult, lies in the spleen and is carried on by the reticular cells which probably belong to the class of cells referred to as histocytes or fixed macrophages. True, these cells are located in other parts of the body as well. It is important that we identify this process as not one of hemolysis in the strictest sense but one of phagocytosis. The macrophages, under normal conditions, seem to be able to differentiate between useful erythrocytes and worn out corpuscles.

The hemoglobin liberated by this process of blood destruction is reclaimed for the manufacture of bile pigments. The intermediary substance, bilirubin, is manufactured from the hemoglobin and is sent to the liver to pass through the "Kupfer Cells" and be elaborated into bile pigments. By virtue of the wide distribution of histocytes referred to above it is readily seen that blood destruction and the manufacture of bilirubin may take place in various parts of the body. An excellent example of this is the changes in color of any bruise or hematoma. It is by measuring the quantity of bilirubin used each day in the manufacture of bile pigments that we are able to learn how much hemoglobin is being recovered, therefore how many erythrocytes are being destroyed and indirectly the age or life expectancy of erythrocytes.

THE ORIGIN, FUNCTIONS AND DESTRUCTION OF LEUCOCYTES

It is convenient to divide the colorless cells of blood into three classes: the granulocytes or polymorphonuclear cells, the lymphocytes, and the monocytes. Each has its particular seat of origin and distinctive functions. After they live their span of usefulness they are destroyed and eliminated chiefly by way of the gastrointestinal mucosa.

The granulocytes are so-called because they contain granules in the cytoplasm. Depending upon the chemical nature of the granules they may be neutrophilic, basophilic, or eosinophilic. As with the erythrocytes, they have their origin in the myeloid elements of bone and thus may be intimately associated with the anemias as we have come to know them. The first cell of the series is the myeloblast followed by the myeloocyte which is the first to show distinct granules. The myelocyte is a large cell with an oval nucleus and many granules in the cytoplasm which may be any one of the three varieties listed above. As the cell develops the nucleus becomes indented (meta-myelocyte) and eventually divided into lobes with only filaments of nuleoplasm uniting the various lobes. These lobes may number up to six. Because of the lobulation of the nucleus they are referred to as the polymorphonuclears and depending upon the reaction of their granules are any one of the three varieties listed above.

These granulocytes have the functions of destroying bacteria, with the aid of other substances notably opsinins. They also may act as scavengers of tissue debris. They are the backbone of Metchnikoff's cellular hypothesis of immunity. Normally they number from 3,000-7,000 per c.mm. of blood and only the lobulated ones should be present in the circulating blood.

The lymphocytes are manufactured by the lymphatic structures of the body. They are smaller than the granulocytes, have only a single regularly outlined nucleus, and relatively very few granules in a very bright blue cytoplasm (when stained). Normally they number between 1,000-3,000 per c.mm. Their functions are less well known but they seem to have the property of being able to repair damaged tissues. It is believed by many that the small round cells of inflammation are in reality the small or adult lymphocytes. They bear a striking relationship to the embryonic connective tissue cell. There is probably little advantage in dividing them into small and large. Suffice it to say that the large ones are younger than the small ones.

The monocytes have their origin in the lining cells of the reticulo-endothelial network and are probably endothelial cells. They number, normally, in the blood from 100-600. Their functions have not been completely elucidated but they have to do with antibody formation, the formation of granulation tissue, and act as scavengers preparatory to repair processes. On occasion, these monocytes may show indention of their nuclei. This was erroneously interpreted by Erlich as indicating a transition between the monocytes and the granulocytes of the polymorphonuclear series and thus the term transitional cell came into being. This conception is false and the term transitional cell should be abandoned and these cells classes as monocytes.

THE BLOOD PLATELETS

The blood platelets are small masses of protoplasm measuring approximately 3 microns in diameter. In circulating blood they average 200,000-400,000. They have their origin in the myelogenous portions of bone similar to the granulocytes and erythrocytes. It probably would be unprofitable to discuss at length the exact origin of these bodies and the exact manner in which they function. Suffice it to observe that they have their origin in the bone marrow and that they have to do with the coagulation of blood. (This course has recently been confirmed by Custer and Kumbelst in studies on hemophilia.)

GENERAL APPROACH TO THE ANEMIAS

Armed with this knowledge of the methods of blood formation and blood destruction let us see how these processes may be perverted to bring about "reductions in quantity or quality of blood." There appears to be a general tendency to avoid a classification of the anemias, but we are going to be so bold as to suggest that a classification on the basis of etiology would be desirable and it is from that standpoint that we choose to approach the subject.

ANEMIA AS A RESULT OF INCREASED BLOOD DESTRUCTION (SECONDARY)

The anemias as a result of increased blood destruction or blood loss are the ones referred to as secondary anemias; secondary because they are resultant to the process whereby the blood has been lost and because their etiology is relatively better known.

1. Acute Secondary Anemia (normochromic-normocytic) is probably the easiest of the anemias to understand. By this process we
understand an anemia resultant upon acute blood loss. This comes about under such circumstances as major trauma, surgical accidents, perforated peptic ulcer, ruptured ectopic pregnancy, the gastro-intestinal hemorrhages of hepatic cirrhosis, etc. When such a major hemorrhage occurs, tissue juices and cerebro-spinal fluid are thrown into the blood stream to make up the bulk of blood and maintain circulation. The result is dilution of the circulation blood.

The blood picture of this variety of anemia is quite simple and characteristic. The erythrocytes are greatly reduced in numbers due to the dilution referred to above. They may sink below one million! The quantity of hemoglobin carried by the blood drops in proportion and it is most frequently seen that the color index (hemoglobin coefficient) is slightly less than one (normochromic). The volume of the packed erythrocytes is also reduced in proportion to the dilution of the blood revealing a volume index approximately or slightly less than one (normochromic). The saturation index is also one.

Almost immediately after hemorrhage, however, the leucoblastic centers are stimulated and a state of leucocytosis will develop. Also it appears that the body is able to produce erythrocytes more rapidly than iron so that the number of erythrocytes begin to be replaced so that the color index may take a slight drop.

2. Chronic Secondary Anemia (microcytic-hypochromic). This variety of anemia results from smaller blood loss over a longer period of time. The intestinal parasites are important as etiological factors also neoplastic processes with increased blood destruction and hemorrhage, bleeding hemorrhoids, and other varices along the gastro-intestinal tube, and the infectious disease with increased hemolysis as pneumonia and typhoid fever.

The blood picture of this variety of anemia is the most variable. The erythrocyte count usually is above 2,000,000 but on occasion may drop below. The hemoglobin content is reduced in parallel as we saw in the previous type. This is important to observe since it is in contrast to other varieties of anemia to be reviewed later. Thus the color index will remain one or a fraction less than one. (Usually less than 1 therefore hypochromic.) The volume of packed erythrocytes will be reduced in parallel also so that the volume index is one or a fraction less. (Usually less than 1 therefore microcytic.) The saturation index is also less than one.

If the stained smear of blood be examined it will be noted that the erythrocytes may be extremely variable in size, this is referred to as anisocytosis. Polikilocytes may be numerous. Nuclear erythrocytes may be seen in considerable numbers. These changes in the smear would suggest pernicious anemia because of the apparent embryonic hematopoiesis. However, the differentiating features are the low volume, color, and saturation indices referred to above. It is very likely that many cases of grave secondary anemia are mistaken for pernicious anemia.

3. Idiopathic Spleenomegalic Anemia. The anemia referred to by this name is of the blood destructive type and there is evidence to support the belief that increased hemolysis is an important mechanism. The etiology is still obscure and it may be some variety of poison. Whether the increased blood destruction is due to the increase in size and activity of the spleen or the increase in size and activity of the spleen is a result of increased hemolysis has not been definitively decided. In any event, this disease is characterized by an anemia of the chronic secondary type as described above associated with great enlargement and fibrosis with pigmentation (hematogenous) of the spleen.

4. Banti's Disease. Banti's disease is very similar to the foregoing except that it is associated with hepatic cirrhosis and acites. It has been suggested by good authority that Banti's disease is probably an advanced stage of idiopathic spleenomegalic anemia.

5. Hemolytic Ictero-Anemia (normochromic-microcytic). Hemolytic ictero-anemia refers to a group of diseases rather than a disease entity. These conditions are characterized by hemolysis of exaggerated proportions with a resulting hemolytic jaundice. Some forms are doubtless bacterial, but others are with difficulty differentiated from pernicious anemia. They are properly divided into congenital and acquired forms. The congenital forms appear to be linked in some way to heredity. The blood picture is that of a severe secondary anemia with evidences of somewhat embryonic hematopoiesis.

ANEMIA AS A RESULT OF DEFECTIVE BLOOD FORMATION

1. Chlorosis (hypochromic-microcytic). Chlorosis is referred to be Stengel and Fox as "a primary anemia due to retarded hemogenesis. It occurs exclusively in young girls and is associated with hypothesis of the genital organs and the cardio-vascular system. In recent years chlorosis has been rapidly disappearing. However, some interesting data can be learned from a consideration of this process.

The blood picture of chlorosis is very characteristic. The erythrocytes may be but slightly reduced in numbers, however, in some cases they have been reported as low as 2,500,000. The hemoglobin content is extremely low giving a low color index always less than unity and may be as low as 0.5. This lack of hemoglobin has brought about the hypochromic anemia of which chlorosis is the most striking example. The changes in the leucocyte content of the blood are not constant. The very pale character of the blood serum is said to be one of the important differential diagnostic features.

The exact mechanism of chlorosis is not known, but the indications are clear that it is a defect in metabolism of iron and the manufacture of hemoglobin.

2. Pernicious (Addisonian) Anemia (also called hyperchromic, normochromic-macrocytic). Pernicious anemia is probably one of the most talked of diseases today, running a close second to cancer in the public mind and press. The last few years have brought phenomenal changes in our conceptions and elucidation of this interesting disease. It is to be hoped that further information may be added.

For the purposes of this paper it is well to consider particularly the etiological factors already known or hypothecated. There is evidence of increased blood destruction in the course of this disease as seen in the hemoglobinous pigmentation of organs particularly the liver and spleen at autopsy, and the high icterus index providing the characteristic golden yellow blood serum. In time past this mechanism was looked upon as the etiology of pernicious anemia and all other changes in the body were thought to be secondary to this.

In addition to increased blood destruction, pernicious anemia is characterized by a very embryonic defective hematopoiesis. This is evidenced by the blood picture and the changes in distribution of the myeloid organ. The cause of this defective blood formation has captured the attention of most recent investigators.

Defective gastro-intestinal secretion is constant in pernicious anemia evidenced chiefly by achlorhydria or achylia. It is believed by good authority that this defect may have been present many years prior to the frank manifestations of pernicious anemia. In fact some have been able to demonstrate this condition. The defective digestion resulting from this achylia leads to defective nutrition particularly of nitrogenous foods, with the result that the bone marrow is unable to find sufficient necessary pabulum for the manufacture of erythrocytes. The marrow organ expands somewhat as an analogy to the enlargement of the thyroid in iodine deficiency, so that bones which in the normal adult contain no myeloid organ have again taken up the production of erythrocytes.

This theory is well supported by many facts. There is the suggestion of heredity as the basis of the digestive perversion. Sturgis has demonstrated that other members of the patient's family may suffer from pernicious anemia and that some may show a hypochlorhydria or an achylia who do not manifest pernicious anemia. The gradual evolution of the disease is somewhat supported by the age incidence.
of middle life or over. A disease somewhat
similar and sometimes confused with perni-
cious anemia and resulting from digestive dis-
turbance is seen in tropical sprue. Sprue
shows a characteristic poverty of protein
metabolism.

As the disease progresses the myeloid organ
invades the marrow of long bones displacing
the fatty cancellous mass. This hyperplasia
ferred to as a regeneratory of paralytic and
the fatty cancellous mass. This hyperplasia
ferred to as a regeneratory of paralytic and
blood platelets.

The blood and clinical pictures are quite
characteristic and parallel. The erythrocyte
count drops more or less rapidly depending
upon the severity of the lesion giving the
manifestations of anemia. In addition, how-
ever, the reduction in blood platelets adds the
phenomenon of spontaneous hemorrhage or
purpura. The reduction of granulocytes in-
creases liability to infection and inability to
combat infection.

The blood picture is one of low erythrocyte
count with counts sometimes going below
1,000,000 before death. The hemoglobin is
reduced in parallel giving a color index of 1 or
less and the volume index may be less than
unity. The most striking features of the blood
picture are the progressive leucopenia with
loss of the granulocytic series. One case of
ours showed a leucocyte count of 2,000 with
1,960 of these being lymphocytes and but 40
granulocytes. The blood platelet content is
also greatly reduced.

These aplastic anemias might be classified
as to etiology, but even then they overlap
because the different etiologies may bring
about the same mechanism. An idiopathic
variety is recognized, which is the same thing
as saying one which we do not know the cause
for. Muir in his recent work on pathology
refers to an aplastic variety of pernicious
anemia.

The paralytic varieties of aplastic anemia
are those which result from exhaustion or
inhibition of the hematopoietic organs. They
are produced by such factors as over-exposure
to roentgen and radium rays, chemical poison-
ings particularly benzol, and in some constitu-
tional states notably chronic nephritis.

The myelopthisic varieties of aplastic anemia
are those which result from mechanical dis-
placement of the myeloid organ. Such me-
chanical displacement occurs in the metastasis
of malignant tumors. This is frequently seen
as an end state of carcinoma. A somewhat
similar process is noted during the course of
the leukemias.

Cooley's anemia or erythroblastic anemia is
an anemia appearing in children among south-
ern European and Asiatic countries. It runs
a somewhat chronic and fatal course. It is
characterized by icterus, splenomegaly and
large numbers of erythroblasts in the circulat-
ing blood. The defect lies in an inability to
manufacture mature blood constituents.

5. Von Jaksch's Syndrome. Considerable
criticism is due us for putting Von Jaksch's
Syndrome with the aplastic anemias. This
disease was referred to by the man whose

name it bears as a pseudoleukemia infantum.
The leucocytosis of the process is now described
as having no peculiar characteristics, the pro-
gressive anemia is possibly on a syphilitic or
ricketic basis.

6. Sickle Cell Anemia. Sickle cell anemia
can rightfully be placed among those anemias
resulting from defective blood formation. It
is characterized by the appearance of sickle-
shaped erythrocytes in the blood particularly
after the shell blood has been allowed to stand
for a time. This disease occurs in negroes
almost exclusively and is progressive to a fatal
termination either by anemia or intermittent
infection.

7. Agranulocytic Anemia. Agranulocytic
angina has a number of synonyms the most
popular of which is granulocytopenia. As the
terms imply, it is a disease characterized by a
great decrease in the granulocytes of the
blood. It will be remembered that the granulo-
cytes have much the same origin as the erythro-
cytes and platelets, so it is small wonder that
this condition presents in addition to the lack
of granulocytes, anemia and purpuric mani-
festations.

This condition is invariably fatal. Its cause
has been somewhat elucidated in recent years
and shows such variable factors as blood
stream infection and poisoning by drugs.

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Clinical Manifestations And Therapeutic Data In The Anemias

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INTRODUCTION

In the preparation of this paper, no attempt has been made to present a complete description of the anemias. Rather, the aim has been to offer clinical data in a concise practical manner. Since recent study has produced many changes in the diagnostic approach, therapeutic procedures, and the classification of the anemias, these newer developments will be emphasized. Little of the material here is original and frequent reference, therefore, is made to the current voluminous literature on the subject. Though the present status of knowledge in the anemias is far from satisfactory, there is much information available that is of particular value to the clinician.

Practical consideration of pertinent facts is the objective of the presentation of clinical manifestations and therapeutic data.

Giffin 1 defines anemia as follows: "as usually understood the term (anemia) means a deficiency in hemoglobin, or erythrocytes, or both." He also likens the blood to a liquid train carrying "products from place to place in the organism: aglutinins, precipitins, antitoxins, hemolysins, and hormones; oxygen, derivatives of carbohydrates, proteins, and fats; water, vitamins and urea; leukocytes, erythrocytes, and platelets." A deficiency in any of these or in the amount of blood is an anemia, in the broadest interpretation of the term.

There are three mechanisms in the production of anemia: blood loss, abnormal blood destruction and defects in blood formation. Those circumstances, therefore, which operate to alter the physiology of blood formation and blood destruction as well as vascular accidents or traumas, comprise the broader etiology of the anemic state.

PHYSIOLOGY

The consideration of the normal development of erythrocytes and the elaboration of hemoglobin, in addition to the ultimate destruction of these elements is fundamental. The balance between formation and destruction must be normal if anemia is to be prevented, relieved, or cured. When blood formation is retarded or when blood destruction is hastened, or when both occur, anemia is inevitable.

Approximately four to five liters represents the volume of blood usually found in the human adult; 14 per cent to 17 per cent of this is hemoglobin. In the fetus and the newborn, centers of blood formation are located in many parts of the body, but especially in the liver, spleen, lymphatic tissue, and bones. At the end of a few months and until about 16 years, the red bone marrow of all bones produces all erythrocytes. After that, the red cell forming centers are located only in spongy bones, flat bones, the epiphyses of long bones and possibly in the spleen. If the demand for more active cell formation becomes necessary, all of the original fetal centers may again become active.

It is generally believed that there is a direct communication between the cell forming bone tissue and open blood vessels. The nerve supply of this tissue, in all probability largely controls the opened vascular system. Hence the major portion of treatment might well be to the spinal segments from which these tiny filaments originate. It does not seem plausible and there is no proof that local manipulation over the cell forming bone, especially the long bones of adults, has any marked effect upon blood formation.

To the clinician, observing the course of a case of anemia, the autobiography of the erythrocyte is of great significance. It has been noted on occasions, that immature cells are delivered to the blood stream by the cell forming centers. In most instances, this is probably due to altered function or pathology (neoplastic, leukemic, etc.), in the bone marrow. A lack of the necessary protein, carbohydrates, mineral salts and vitamins in the circulating blood also prevents the proper development of the erythrocyte, since all of these are used in its normal production. Further than this, iron is essential during maturation, as is a specific factor (antianemic) found in liver, kidney, stomach, pancreas and other protein foods. This antianemic factor has not as yet been isolated, though the consensus of opinion is that it exists: successful therapeutic use of certain substances in anemia would strongly suggest a component part of each as an important cell forming agent.

If immature cell development takes place, to any degree, the red blood cell count is a poor index of prognosis. The number of cells per cc., while significant, is of no more importance than the character of cells present. Immature erythrocytes are not uncommonly found in anemic blood.

The most primitive cell is the hemoblast, a large cell with a large nucleus; it is irregular in shape. The next shape in development is the megaloblast, still large in size and irregular in shape; these are often found in circulating blood. Next is the normoblast, resembling in all respects the adult type, but containing a nucleus. The polychromatophoric cell, next in order, while non-nucleated, contains remnants of a nucleus in its irregular cytoplasm. Of greatest importance is the succeeding type, or reticulated cell. This variety is the first that constantly reaches adulthood. The percentage of reticulated cells has therefore been used to clinically identify bone marrow regeneration. The increasing number of reticulated cells is a most favorable index in the appraisal of therapeutic results, in anemia.

The process of cell formation is quite well understood, and its comprehension is indispensable in any satisfactory conception of the anemias. However, the elaboration of hemoglobin though equally important, has been much less clearly outlined. It is undoubtedly associated with the metabolism of iron, since at least one-third of its content is made up of that element. The iron found in hemoglobin is essentially the same as the inorganic iron on the shelves of laboratories. When it is decreased in quantity, therefore, its loss may be satisfactorily balanced by properly prepared inorganic substances. No one is capable of eating a sufficient amount of iron-containing foods to substitute for the usual loss in the grave anemias, since the major portion is eliminated. Nor can the body quickly compensate for this loss, even after the removal of the cause, though it may do so, eventually. Iron administered during a deficiency, is probably only taken up by immature red cells, during the nucleating state and not by the erythrocyte itself.

It is now believed that iron metabolism takes place chiefly in the liver, especially in the Kupfer Cells, though it is possible that the entire reticulo-endothelial system participates. Since copper also seems to be metabolized in the liver, some believe that its processing is associated with that of iron. On this
basis, clinicians have administered copper, as an aid to iron metabolism.

One physiological fact is outstanding: the iron in hemoglobin is used over and over again. This process of conservation is one of the greatest of vital economies. Erythrocytes live for but a few weeks (2 to 6), water and other substances in hemoglobin are dissipated at their death, but the iron is picked up and utilized in new hemoglobin elaboration for new cells.

Though the function of the spleen, as it relates to anemia is not clearly understood, this organ probably begins the destruction of old erythrocytes in the process of fragmentation. Phagocytosis then completely destroys the cell structure and the remains are variously disposed. Hemoglobin is broken down, and much of it furnishes bile pigment, while the iron content is reserved for future cell production. The jaundice occurring in anemia indicates, when present, an excess of bile pigment, resulting from increased hemoglobin destruction.

In addition to its function of blood destruction, the spleen probably retards cell formation in the bone marrow and inhibits cell delivery to the circulation. Hence, the removal of the spleen increases cell formation and hastens cell delivery. The philosophy underlying the surgical treatment of some anemias by splenectomy is based upon the consensus of opinion concerning this inhibiting influence of the spleen.

In anemia, three general types of red blood cells are seen; the normocyte which is essentially normal in size, the oversized macrocyte and the undersized microcyte. As a result of this observation, the anemias have been very practically classified.

Hematological Classification of Anemias—Haden

Haden1 has offered a clear hematologic division, based upon the cell volume and hemoglobin content of the red cell. In the light of recent developments in the treatment of the anemias, this contribution assumes great importance. The chief function of the erythrocytes being the transportation of hemoglobin, their sizes would depend upon the quantity of that substance available in relation to the number of cells in the blood. If the hemoglobin content is essentially normal, and the cell production reduced, each cell must necessarily become larger to carry the load. On the other hand, if hemoglobin is reduced, and the cell production rate relatively normal, each cell would be required to carry a lesser burden and gradually would assume a smaller size. Color and Volume Index would vary accordingly. In some cases, combinations of cell or hemoglobin defects might exist and thereby cause confusion. However, a descriptive hematological classification can easily be correlated with a clinical grouping.

In acute hemorrhage, both the number of cells and total hemoglobin are reduced, hence the cells remain normal in size and color. This is the normocytic, normochromic anemia. In chronic blood loss, mild infection or lowered metabolism, there is first a reduction of hemoglobin without a change in the size of cells: normocytic, hypochromic anemia. If the etiology is prolonged, and as it becomes more severe, the result is the characteristic iron deficiency anemia, called microcytic, hypochromic (small cells, small amount of hemoglobin).

If the anemia is due to a deficiency of the specific anti-anemic factor of liver, the bone marrow is unable to mature an adequate number of erythrocytes. Some die immediately while those remaining attempt the duty of transporting the available hemoglobin. These large, imperfectly formed cells are called macrocytes and the anemia, macrocytic. They may contain a large quantity of hemoglobin, as is common in the Addisonian type (pernicious) and the anemia is macrocytic, hyperchromic. Or the amount of available hemoglobin may be reduced, and the cellular content reduced (macrocytic, hypochromic) or relatively normal (macrocytic, normochromic). Either of these latter two types may result from malignancy, poisons or toxemias. A comprehensive knowledge of any single anemia can only be obtained when the relationship of cell volume and color (hemoglobin content) is understood. Other data, too, are significant in therapy, hence the anemias must also be classified clinically.

Clinical Classification

This has been done by many investigators, but no one has yet covered the field conclusively. Two fundamental facts must be kept in mind, when one approaches a clinical classification. First, that the therapy indicated for defects in cell formation is built around adequate dosages of the specific antianemic factor found in liver. Secondly, that an iron deficiency (reduced hemoglobin), is controlled primarily by the utilization of available iron. With these as a basis, the philosophy of treatment becomes more positive, and the results more tangible. Furthermore, without the necessary food, mineral and vitamin elements, anemia remains uncontrolled.

With this in mind, the clinical phases of this paper will be evolved from the following division of cases:

1. Acute hypochromic anemia.
2. Chronic hypochromic anemia.
3. Simple anemia.
4. Hyperchromic anemia.
5. Combined system disease.
6. Vitamin C deficiency.

8. Miscellaneous anemias, such as aplastic, sickle cell, chlorosis, von Jaksch's, et. al., as well as sprue, Bothrocerephus latus, etc.

In this grouping, it must be pointed out that a combination of any several may be observed in the same patient.

Obviously, etiology must receive proper attention. From this standpoint, the most readily understood anemia is the acute hypochromic type which results from acute hemorrhage. If the hemorrhage is not severe, the cell size and color remain normal, hence the color and volume indices are below unity due to total blood loss. The management of such cases is evident. The site of hemorrhage is located and properly treated by surgery, rest and sedation. Substances to control hemorrhage and cold packs are of value in some instances. Blood transfusions are usually indicated, the amounts and frequency dependent upon daily hematological examination. There are some who employ small blood injections, daily, to stimulate blood formation; except in infection, these seem to exert but slightly favorable influence.

Chronic Hypochromic (Microytic) Anemia

If hemorrhage becomes chronic, and in gastro-intestinal diseases, syphilis, tuberculosis, malignancy, infections, poisoning (with lead, arsenic phosphorous, etc.) as well as invasions by parasites, the hemoglobin content of the blood is reduced. Therefore iron is at a low level and the cell color becomes pale. Smaller cells are preponderant, hence microcytosis develops. The volume index and color index are both below 1; the anemia is microcytic or hypochromic.

Pallor or pastiness of the skin and paleness of the mucous membranes are characteristic. The systolic blood pressure is reduced and the patient's vitality low. If hemoglobin is broken down too rapidly, the liver is unable to eliminate the end products through the bile, and jaundice occurs, resulting in an increased icterus index. Water metabolism is disturbed, causing puffiness or edema of the superficial tissues. With laboratory reports showing a greater loss of hemoglobin than erythrocytes, as well as microcytosis, the diagnosis is not difficult.

General hygienic measures are first in order. Rest improves visceral function, so it is encouraged. Sunlight or ultra-violet radiation, both rich in Vitamin B, are used, since this element is essential to hemoglobin formation. The diet should be high in protein and vitamin because of their known necessity of blood formation. Liver therapy is used, chiefly because of the Vitamin A, B and G content of this protein. Before the liver diet was recommended by Murphy and Minot1 in 1926, Whipple14 found that ingested liver was important in
OSTEOPATHIC DIGEST

raising the hemoglobin content of the blood, in experimental dogs which had been rendered anemic. This same observer, in more recent studies, is encouraged by the use of amino acids intravenously because they seem to exert a definite influence upon hemoglobin regeneration. It is not unlikely that the amino acids, resulting from a high protein diet are the hemoglobin activators in hypochromic anemia. He also mentions phenylalanine, tyrosine and prolinc, for the purpose.

Since this is an iron deficiency state, the matter of iron substitution is interesting. Most of ingested iron is eliminated through the bowel, whether it originate from food or chemical compound. Hence due allowance for such loss must be calculated. It is the rare case that will respond favorably to the ingestion of iron containing foods, alone. A satisfactory outcome is not unusual, however, in cases treated manipulatively. This is especially true in those convalescing from acute infectious diseases. Apparently success is obtained through improvement in hemoglobin formation with available iron, in the reticuloendothelial system. The bulwark of therapy is the spinal column, though local manipulation over the liver and spleen, for its effect upon circulation is also important. Since equally favorable outcomes are reported, with and without sudden mobilization of the spinal segments, the effectiveness of treatment must be based upon vis-à-vis-somatic reflexes. Occasionally, circumstances arise, in which hemoglobin is not formed rapidly enough, to balance its destruction, and iron must be added to the blood stream.

In the administration of iron, two facts must be kept in mind; first, that the inorganic is equally as useful as the organic, and that the major portion is eliminated through the bowel. Iron may be injected hypodermically, but it is more readily absorbed if given by mouth. Iron therapy is an old one, consequently much divergence of opinion exists. It is accepted by evidence, and so little known to the profession, as the absolute necessity of very large doses of iron in the treatment of these chronic anemias. McCrae and Remikoff also recommend dosages which simulate those set down, above. Lee and Palmer, however, as well as writers of older texts suggest smaller amounts. It is significant, though, that it is the earlier works which chiefly advise small administrations, while the modern consensus of opinion tends toward large dosages.

Unless there is some unusual necessity, hypodermic iron is not chosen, and "Intravenous administration is to be condemned." Mettler and Minot, and others have shown that iron is more quickly absorbed from an acid than from an alkaline medium, hence the administration is best given, shortly after each meal. If hypochlorhydria exists, or if diarrhea occurs, small doses at frequent intervals, are indicated. In fact, there are many who prefer this method of administration, because of their belief that a "constant stream" of iron through the gastrointestinal tract quickens absorption.

With proper iron metabolism, a favorable outcome is expected within eight weeks, in chronic hypochromic anemia.

IDIOPATHIC HYPERCROMIC (SIMPLE) ANEMIA

A special and interesting form of "iron deficiency" anemia is the idiopathic hypochromic type. This occurs chiefly in middle aged women, and it is especially manifest, at the time of menstruation. While the chief fault seems to be the inability to utilize food iron normally, not infrequently a reduction in the number of erythrocytes is observed. A majority of patients with this anemia suffer from gastric hypacidity or achlorhydria, which of itself is not sufficient to alter the conservation of the small amount of food iron normally required unless there is an additional event, such as menstruation or pregnancy. The frequency of a family history of anemia of the same nature, suggests an hereditary tendency.

Clinically this group resembles the chronic hypochromic type, but it is especially identified by the loss of hemoglobin and the relatively normal sized red cells.

By far, the greater percentage of these cases respond quickly to hygienic, dietary and osteopathic manipulative treatment; the management is the same as that of microcytic anemia. In the occasional case, with marked achlorhydria, it may be necessary to increase the amount of available iron, by substitution. Giffin recommends the use of doses of iron citrate up to 6 gm. daily, for a month, every third or fourth month, regularly.

Though the cause of simple anemia is incompletely understood, such cases are included in the "iron deficiency" classification.

HYPERCHROMIC (MACROCYTIC, ADDISONIAN, PERNICIOUS) ANEMIA

While the hypochromic types are of wider occurrence, equal emphasis must be placed upon hyperchromic (macrocytic) anemia. According to Levine and Ladd, 143 patients with pernicious anemia were admitted to the Peter Bent Brigham Hospital (Boston) during a period when there were 401 cases of lobar pneumonia. This represents an incidence of more than one-third that of the commoner disease, lobar pneumonia. These figures, reported in 1921, do not fully describe the present incidence; refinements in diagnosis have undoubtedly increased the statistics during the last ten years.

Pernicious anemia usually occurs during and after middle life, though cases in children have been reported. There is a definite hereditary tendency. Though the etiology is not completely known, much emphasis has been placed upon the fact that achlorhydria is present in every case. The discovery of the activity of the specific factor in liver which exerts a beneficial effect upon red cell formation, has associated ingested protein with the mechanism.

Hence, an analysis of etiology as it relates to protein digestion is generally accepted. Recent work has incontrovertibly established this, as a practical working basis in the treatment of hyperchromic anemia. Though the antianemic factor of liver has not as yet been specifically identified, Cohn and his collaborators suggest that it probably has a nitrogenous base.

It is believed that there is a factor (intrinsic) in the gastric juice, another (extrinsic) in ingested protein and a third factor liberated by the action of the intrinsic on the extrinsic. This latter is found in liver, defatted hog stomach, kidney and other specific proteins, which have to do with the production and maturation of red blood cells. The wide acceptance of this theory has done much to establish the present-day conception of hyperchromic anemia.

Outstanding in the varied symptomatology of macrocytic anemia is the occurrence of nervous symptoms. Goldhamer and his associates report nervous system involvement in 89.2 per cent of 408 patients, all of whom showed posterior column manifestations, including numbness and tingling of the hands and feet. Evidence of involvement of the lateral column was noted in 41.6 per cent and combined degeneration in 40.7 per cent. Among fifty patients in this series, cerebral manifestations occurred in 64 per cent. Ataxia, impaired vibratory sensation, hyperactive reflexes, irritability and bladder disturbances are the most evident symptoms. Practically all cases of hyperchromic anemia have at least slight evidence of cerebral involvement. Under suf-
icient and continued antianemic treatment, 60 per cent of cases showing symptoms of nervous origin, will improve.

Peripheral reflexes are affected in the lesser percentage of cases and when abnormality in this respect is noted, the prognosis for relief is much more pessimistic. No doubt this can be accounted for by the degenerative changes taking place in the spinal cord and brain. In this group of cases, but 2 per cent improve in signs.

Concomitant manifestations of hemiplegia from cerebral hemorrhage, thrombosis, embolism, etc., should not be confused with the clinical manifestations of cord and brain tissue destruction in pernicious anemia. The age incidence of hyperchromic blood disease and circulatory disease is significantly the same. The favorable prognosis of hemiplegia under osteopathic care is maintained if an accompanying macrocytosis is satisfactorily controlled.

About three-fourths of patients complain of symptoms of recurring glossitis; while slightly more than 50 per cent suffer from nausea and vomiting, periodically during the disease. Abdominal distress and constipation also occur in a majority of cases. These gastrointestinal symptoms probably arise from three sources, the achlorhydria, spinal cord changes, or from the lack of a specific factor in the stomach.

Dyspnea, weakness, palpitation, hypertension and even angina pectoris8 as well as pallor, jaundice, ecchymoses, and local areas of hemorrhage, are classical manifestations of macrocytic anemia.

The diagnosis is definitely made, however, by hematological examination. The number of erythrocytes is reduced more than the amount of hemoglobin, hence the red cells become generally larger, and each contains a greater quantity of hemoglobin. This adjustment of structure to physiological demand causes an increase in both the size and volume indices, beyond unity. Besides the decrease in the total number of red blood cells (often to below 1,000,000) per c.c., there is often an accompanying leukopenia and reduction in total blood platelets and fibrinogen. Immature nucleated cells are found, and there is a great variation in the size (anisocytosis) and shape (polycytoysis) of the erythrocytes present. The chemistry of the blood, and especially the metabolism of fat, are usually altered. The latter fact explains the obesity so frequently observed in hyperchromic anemia, as well as the degenerative fatty changes taking place in the various organs during the later stages of the disease.

The direction of treatment, the appraisal of therapeutic progress and the ultimate prognosis are only properly interpreted in the light of a changing blood picture, physiologically evaluated.

Until the discovery of liver as a therapy for Addisonian Anemia, in 1926, all cases died within two years of their diagnosis, even though the prior therapy seemed periodically effective. Remissions occurred, hopes were raised, but the patients gradually weakened, and succumbed. The result was the same, under all forms of treatment. Since that important discovery, the prognosis has entirely reversed. Today, all patients live, providing the etiological circumstance is controlled, and if they are given a sufficient amount of liver, by mouth or hypodermically. The disease is still classified as incurable and the administration of liver or its substitutes may only be stopped temporarily, but the outlook is much brighter than that of ten years ago. Proper dietary is the "crutch" upon which these sufferers depend for a normal existence.

The most important single factor in the diet of hyperchromic anemia is the protein. Following the work of Whipple and his associates,7 the diet of Murphy and Minot7 represented the first hopeful therapy. The basis of this regimen was the use of a large grammage of liver (one-half pound), other protein, low fat, normal carbohydrate and fruit juices, each day. The empirical formula of that time, though changed, represents practically, the basis of treatment today.

It has subsequently been demonstrated that kidney, when fed in sufficient amounts (one-half pound) daily, produces much the same effect as liver. And in 1929, Sturgis and Isaacs10 showed that defatted hog stomach with HCl at the time of each feeding. As a rule, his and his collaborators21 observed satisfactory response to this routine. A proper adjunctive diet which is low in fat and high in vitamin content, is advisable in every case. The obesity of hyperchromic anemia, and the fatty changes that occur in the various viscera compel the attention of the clinician to the faulty fat metabolism. Due regard for this must be maintained. The physiologic necessity for vitamins in the formation of red blood cells explains the use of a high vitamin diet.

General measures such as rest, sunshine and exercise are important considerations, too. There are some who still recommend transfusions of whole or citrated blood, when the erythrocyte count goes below 2,000,000: in an occasional case, this may be necessary. Except in infection, the use of whole blood intramuscularly has little to recommend it in anemia. There may be some instances where the patient is unable to retain a proper diet; in those cases it is well to administer dilute HCl at the time of each feeding. As a rule, however, favorable clinical response begins from the inception of substitution therapy. The first improvements noted are in appetite and digestion.

The management of this anemia does not cease when the hematology is normal. These levels must be maintained, hence the patient must submit to laboratory examination every six months for the rest of his life. Dosage of antianemic substances are calculated, controlled and modified from time to time, in

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*Eli Lilly and Co.'s. No. 343. Liver Extract—Parke Davis & Co.
**Squibb's Autolyzed Liver Concentrate.

10 per cent of patients19 consists of an area of erythema and tenderness at the site of injection.

Isaacs and his collaborators21 reported a method of refinement of liver extracts by the use of permutite and acetone, for intravenous therapy. By the process outlined, they were able to prevent the untoward complications of the administration and also to obtain a favorable response with the intravenous substance in a small group of patients who were not benefited by liver or desiccated hog stomach, given orally.

Various studies, too numerous to recite, have proved that much of whole liver taken by mouth is of no specific value, and that when it is given hypodermically, the response is more favorable, despite the smaller dosage. The result for this must about 125 gm. of fresh liver when injected encourages a reticuloctye response equal to that obtained from 4200 to 4800 gm. by the oral method. The conservation of material, the stricter observance of dosage and the elimination of non-cooperation of the patient, recommend this form of therapy, above the oral. Purification of the material prevents the occurrence of reactionary symptoms.

A number of reports concerning the use of predigested beef and muen may be found in the literature. Castle and his collaborators28 observed satisfactory response to this routine. A proper adjunctive diet which is low in fat and high in vitamin content, is advisable in every case. The obesity of hyperchromic anemia, and the fatty changes that occur in the various viscera compel the attention of the clinician to the faulty fat metabolism. Due regard for this must be maintained. The physiologic necessity for vitamins in the formation of red blood cells explains the use of a high vitamin diet.

Milne, who has made a special study of the subject, has shown that liver is three times more potent than liver powder. In 1930, Castle, Strauss,18,19 as well as Cohn, McMeekin and Minot17 have produced liver extract which may be safely used hypodermically. These have been prepared for intramuscular or intravenous use, being from 15 to 30 times more potent than liver extract given by mouth. If proper dosages of an intravenous preparation are used, the erythrocyte count may be brought to normal after a few injections, 5 to 7 days apart, and maintained at that level, by monthly administrations. Unfortunately the use of liver, intravenously, is occasionally followed by un­

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**Squibb's Autolyzed Liver Concentrate.
and lassitude. The acute attacks are characterized by fever, increased jaundice, leukocytosis, and rapidly progressing anemia. The spleen is enlarged, and the lower border of the liver and Murphy's point are tender. Bile products are found in the urine, the icterus index is increased and the red blood cells are especially fragile.

The congenital form, first described by Minkowski in 1900 is commonly than the acquired, but the etiology is equally doubtful in each. Some believe that the spleen is related to the etiology, since splenectomy is followed by the disappearance of the jaundice and anemia, although the increased fragility of the red blood cells may persist.

The usual treatment for this disease is splenectomy. The best results are obtained when it is performed early, when the mortality rate is but 3 per cent. Transfusions are contraindicated, as they may cause death. Reifenstein and Allen report favorable results with intensive liver therapy.

**Miscellaneous Anemias**

The anemias, not often encountered in general practice, *sprue* is probably the most interesting. In spite of the various dietaries (liver, meat, milk, banana and strawberry) reported as being successful in sprue anemia, the available information is confusing. Obviously all of these contain one common factor, a water-soluble vitamin. Hence the disease fails in the category or a deficiency state. Castle and Rhoads showed that a dietary rich in Vitamin B complex was effective in treatment, and consequently the fault in hematology is probably similar to that of macrocytic (pernicious) anemia. They later demonstrated a similarity between the pathologic alternations of the bone marrow in the two diseases.

Based upon these and other studies, Rhoads and Miller reported successful results in refractory cases with intensive liver therapy. They used a much heavier dosage than that usually prescribed in hyperchromic anemia and continued the therapy for a long period of time.

The administration of H Cl and pancreatin, as well as santonin and emetine in sprue, have also been employed with success. The effectiveness of this treatment obtains, because of its effect upon the digestive fermentations as well as upon the *monilia*.

While the blood picture is much the same as that observed in pernicious anemia, sprue is distinguished by the sore, excoriated, monilia infected tongue by parathesias, and by the marked intestinal fermentation with diarrheic, frothy, fetid stools. *Emaciation* is constant, but symptoms of nerve involvement are never present.

Infestation anemias (*tape-worm, hook-worm, Dibothrioccephalus Lotus*, etc.), are caused largely by the defective nutrition brought about in the host. Though the anemia is profound in parasitic disease, it cannot be classified strictly under either the macrocytic or microcytic groups. Transfusions are sometimes employed in addition to the usual measures for anemia and the particular parasitic disease present. The greatest consideration is that of differential diagnosis.

The *anemia of pregnancy* can only be diagnosed when other factors are excluded. The treatment follows the usual lines. Too frequent child bearing is contraindicated in patients showing a macrocytic tendency during pregnancy.

**Aplastic anemia** may occur in a primary or secondary form. The etiology is unknown in both the prognosis, grave. The onset of the primary type is sudden, and death occurs quickly. The secondary type is believed to be due to benzol, arsenic, purpura, leukemia, malignancy or X-ray, because of their known effects upon blood and hemoglobin forming centers. The anemia is truly a defect in blood formation, which cannot be overcome by any known therapy. Transfusions may be employed, but they are only supportive. A study of habits and occupation should be made, and changes advised when indicated.

The recent success with pentose nucleotides in anisocytosis (which simulates aplastic anemia in many respects), has turned thought in that direction, for a therapy. The relationship is highly problematical and it is being subjected to close experimental and clinical study.

The *anemias of infancy* are managed in much the same manner as the adult types. The von *Jaksch* type is secondary and is usually corrected by the treatment of the cause. On the other hand, *Colley's* is more in tractable and all known methods are used.

**Sickle cell anemia** is limited almost exclusively to the negro race, and it is of a moderate degree. It is probably due to a congenital defect in blood formation. Digestive symptoms, jaundice, headache, muscle pain and “punched out” ulcers of the ankles are characteristic. Leukocytosis is commonly seen, and the sicker-shaped erythrocytes are reduced in number. This change in cell shape, as well as the symptoms of cardiac failure sometimes observed, are believed to be due to faulty oxygen tension in the blood stream. Emaciation is usual.

Liver, iron therapy and splenectomy are ineffectual: transfusions and general measures comprise the treatment.

**Splenic anemia (Banti's Disease)** is an intoxication of unknown origin, characterized by enlargement of the spleen, secondary anemia, leukopenia, hematension and terminal cirrhosis of the liver. It may be divided into three stages: a *preascitic, with enlarged spleen*, which lasts from 3 to 5 years, a *transition*, in which the anemia progresses and the
Liver enlarges (1 to 2 years) and a cirrhotic in which jaundice, anemia and ascites are characteristic.

The symptomatology is varied and it is the usual found in hepatic, splenic, anemic or pressure circumstances. The spleen becomes massive and can often be seen in the abdomen. Leukopenia with low color index is characteristic; polycythemia may occur.

The only treatment promising any result is splenectomy. It offers the most when it is performed early (before cirrhosis of the liver). Surgery, however, may be resorted to, at any stage, provided a preliminary period of general care and transfusions has been in effect.

Gaucher's Disease and Niemann's Disease can only be differentiated from Banti's after the spleen has been removed and examined histologically. They are both rare.

Celiacosis is an idiopathic anemia of young women, characterized by a reduction in hemoglobin, slight decrease in red cells, and by the prompt response to iron therapy. The predisposing etiology of age 12 to 30, sex (female) and heredity is well known. The symptomatology is that occurring in anemia, in addition to menstrual disorders. Pallor is usual. The color index of the blood is less than 1.

In addition to general hygienic measures, iron therapy might be used in severe cases. Myelophthisic anemia results from the encroachment of neoplastic or leukemic disease within the blood forming tissues. The blood count first shows an increased number of immature erythrocytes, and an increased percentage of juvenile "white" in the Shilling hemogram. The diagnosis of this type of anemia depends upon the discovery of the causative disease, and the treatment, though largely symptomatic, is directed to the etiological circumstance. The prognosis is necessarily grave.

Of current interest in the analysis of anemia is that which occurs in nephritis. Some opinions explain renal symptoms principally on the basis of the concomitant anemia; clinically, transfusions of blood often cause a disappearance of the complaints of the nephritic. Much speculation concerning the mechanism of the low blood picture in renal disease, may be found in the literature. Early observers believed it to be due to a lack of lactic acid in the stomach and later students found a parallel in the anemia and the blood circulating in glomerulo-nephritis. Present thought considers inanition (due to a low protein intake) or degenerations of the liver and other organs, causative. Protein loss through albuminuria, too, may result in anemia. The secondary type is usual in all cases of 6 to 9 months duration; in some though, striking resemblance to pernicious anemia is observed. Macrocytosis, however, is very rare. Renal insufficiency and the profusity of the blood deficiency are in ratio in the nephritides (and in the acute infections). Low hemoglobin and a low red blood cell count indicate renal insufficiency. When normal erythrocyte and low hemoglobin levels are obtained, cardiac complications are usually present. In cases of moderately diffuse and diffuse renal pathology with an increase red count and increased hemoglobin content, cerebral complications may be expected. The control of the anemia is usually obtained by the high protein diet (now preferred), and by transfusions. Liver therapy is contraindicated, since it has recently been shown by Chanattn that diets rich in liver consistently produced renal damage in experimental animals. Though some disagreement exists concerning the relative merits of low and high protein diets in nephritis, much evidence can be found to recommend the latter. A comprehensive analysis of this subject may be found in an earlier issue of this publication.

COMMENT

1. The present conception of the management of the anemia is based upon the study of physiology and pathological physiology as the relate to blood loss, blood formation and blood destruction.

2. The diagnosis of anemia is largely determined by painstaking hematological examination and classification.

3. The clinical division of cases is predicated upon the determination of Color and Volume Index as well as the morphology of the red cells.

4. Two important groups of cases are seen, one, in which the cell count is reduced more than the hemoglobin, and the other in which the opposite occurs.

5. Therapy is substantially divided according: liver or liver-like substance for cellular deficiency and iron for lack of hemoglobin.

6. The relationship of anemia to nephritis is important in the light of the therapeutic approach to the latter disease.

REFERENCES


FUTURE OF THE COLLEGE
(Continued from page 22)

The credit is too exclusively accorded to the individual or the organization. The real problem is to obtain the support of the public, which is always more venturesome in the initial efforts toward organized drives and similar opportunities.

"This speaker is of a mind that it is not too soon to undertake a survey of needs for the future operation of the Philadelphia College and its allied institution. It has been clearly exposed that we are in sore need of added bed capacities, increased clinical facilities, a research building, postgraduate facilities,—without having mentioned need for enlarged museums, redoubled libraries, endowed teaching chairs, endowed beds, established fellowships, student loan funds, and the like. While it may be considered a reiteration for me to say that capital needs comprise the greatest single handicap to osteopathic education, it will none-the-less bear repetition.

"Question, then, pertains to our attitude at this time concerning the possible formulation of a plan or plans to overcome these evident obstacles, barriers, and preventives to determined aims and objectives. Shall we take the initiative in the matter, recognizing full well our obligations and prerogatives along these lines? Or shall we sit idly by, while complaining of our limitations and privations, only to be impelled by eventual Board decision that we must go to work. Now, we are not even in wildest speculation considering the feasibility of such a Campaign Drive as you experienced in 1929. This is answered instinctively in anticipation of remonstrance against any such precipitate, stupendous undertaking. But we are confident that you will want to weigh the possibilities in connection with some less exacting; some more deliberate, more protracted, more adaptable, more practical plan.

"As your Dean, I want to state to you the character of effort that I think we should engage in. This is the thirty-sixth year of conduct of the College. Why should we not consider a fourteen-year program, looking to the completion of its terms and realization of its purposes by the time of the Fiftieth Anniversary of the Founding of the College—a landmark in the life of any institution? A determined lesser objective this year, a similar one next year, possibly an expanded effort for the following one if the time
looks right. But anyway, some plan! One that incorporates capital requirements, amortization requirements, building funds, endowment funds and other properly conceived needs.

“You will recognize the lacking offici­ality of this subject in such a general presentation of it at this time. It must needs be considered judiciously by the College Board of Directors at the earliest possible moment. Your responsiveness or for that matter any reaction on your part to its general premises should prove quite helpful to them. It is just that your speaker did not want to miss this opportunity when you are so gathered to present his mind on the subject to you. He feels that financial needs are not to be divorced from any picture that contemplates higher standards, improved tone, and general refinement of the educational processes of the Philadelphia College.

“In recapitulation, we propose for the future conduct of your College:

1. A higher preliminary education standard.
2. Careful selection of students.
3. Maintenance of instruction at highest possible levels.
4. A curriculum devised to afford a sound grasp of the fundamental aspects of osteopathy and a rounded preparation for osteopathic practice.
5. Soundly conceived methods of instruction.
6. Projection of Post-Graduate Osteopathic Education.
7. A development of Research Programs and Opportunities.
8. The Initiation of Some Appropriate Plan to Finance Capital and Endowment Needs.”

Following Dr. Holden’s address, Dr. Thomas R. Thorburn, President of the American Osteopathic Association, remarked:

“Conditions are changing throughout the country relative to the practice of medicine or the healing art. The entire country is facing the problem of socialized medicine . . . the American Medical Association and the government are the two factors that are concerned with this problem. The American Medical Association made a ruling last fall that they would no longer recognize any school or cult of medicine. This was aimed at Osteopathy and specifically chiropractry. Are they attempting to frustrate any osteopathic recognition? This must be answered later, because even among their own groups they are dropping the term homeopathy, the government failing to recognize that branch of therapy. It seems to be a continuous fight on all sides, and we are in that tide and must wait our turn. It is rather surprising to find social service workers rather than specialists attempting to control the activities of the government today . . . Unfortunately no osteopathic physician as yet has been appointed to the Advisory Committee, and although this seems to be against us; namely due to political influence, ignorance, and misunderstandings, yet our increase in educational standards, national publicity, together with forceful personalities cannot help but eventually reach an effective goal.

“Standards of osteopathic education will be increased in all colleges in time, and with the Los Angeles College of Osteopathic Physicians and Surgeons now applying for the New York Board of Regents for registration, and since this is the first time that they have applied, makes it all the more inspiring that other colleges will some day obtain an equal curriculum in education and national in scope, which will be recognized by all the parties concerned.

“Osteopathy should have a representative on the Advisory Committee. Although at the present writing it is unlikely that the profession will be represented, we hope some day we may be able by the correct type of entrance to bring one of our outstanding physicians to the front, and place him in such a definite position that a place cannot be refused him or the demands of the profession.

“We need men in key positions in the various departments of our government. Just as we make every effort to get a member to join our association, and just as we lay plans for the organization of groups and societies, we must start now, a progressive political program to reach this point.

“Perhaps we are in a transitional stage, but all progressive institutions reach that stage . . . As a profession we have considered our rights and privileges much too often . . . We must further assume the attitude that a patient is entitled to everything that they require, and it is our duty to see that they receive the type of treatments that these conditions call for. We cannot maintain a narrowminded viewpoint when it comes to treatment. There are three specific attitudes that are apparent today in the growth of osteopathy and the osteopathic profession. One—the attitude of the man who wants osteopathy to stay as it was when Dr. Andrew T. Still first introduced the therapy. Secondly, the attitude of colleges which refuse to increase their educational requirements and thirdly, is the attitude of the colleges that must raise the requirements because of necessity.

“Schools are not the only organizations that have the last word as to this problem. The development of educational standards throughout the United States and the demand for higher requirements will result in more privileges being accorded those colleges conforming with these new required demands.”

In an interview with Dr. Rypins of the New York Examining Board, Dr. Thorburn mentioned the fact that perhaps with the two-year pre-professional standards being required now, that later on, this august committee would demand four years of preliminary training. Dr. Rypins assured the speaker that such would not be the case . . . It is interesting to note from statistical findings based on reports from leading medical colleges, that a student with a two-year academic course of training maintained a higher standard in a professional school rather than the one who had completed four years of educational work.

Dr. Thorburn read a resolution passed by the Northern Indiana Osteopathic Association. The main topics being that the Osteopathic Colleges continue to place emphasis on and give the best possible instruction in osteopathic concept of disease and osteopathic manipulative therapy. They further requested the Associated Osteopathic Colleges to add Materia Medica to their standard curriculum

(Continued on page 36)
Dear Doctor:

Rear Admiral Richard E. Byrd will make his only public appearance in Philadelphia with his thrilling story of his adventures in the Antarctica. He will give a chronological story of the journey by boat from Wellington, New Zealand and on to the base at Little America with nine thousand feet of film.

Due to the limited seating capacity and our desire to give every physician and guest an equal opportunity to attend this marvelous moving picture and performance, I am taking the liberty of inviting you to participate at the afternoon or evening performance.

I would appreciate hearing from you as soon as possible the approximate number of tickets you desire as there will be no reservations after the 20th of February.

Trusting that this educational presentation will interest you and that we may be favored with an early reply, I am

Very truly yours,

Dr. François D'Elisçu,
Director.
Admiral Byrd and William Bocolin, Navy Pilot, scan the ship before taking off on a flight of exploration.

REAR ADMIRAL RICHARD E. BYRD, aerial conqueror of both Poles, whose recent discoveries in Antarctica have added thousands of square miles to the world's map, comes here to speak on Saturday, March 28th, at the Metropolitan Opera House, under the auspices of the Philadelphia Osteopathic Hospital and its Clinics and Dr. François D'Elisçu, Manager.

Nine thousand feet of thrilling new motion pictures depicting vast areas upon which human eye have never before looked, will illustrate the famous explorer's own story of his recent adventures. From his own lips will be heard the fascinating details of the actual accomplishments of the Byrd Antarctic Expedition II—accomplishments whose value the world at large is hardly able to estimate, off-hand, but which scientists, now studying the mass of data brought back, already fully appreciate.

But the adventurous side of the Expedition—the voyages of discovery over ice-crashing seas in the gallant old barkentine, Bear Oakland; the exploratory airplane flights over the monstrous glittering continent at the bottom of the world; the sledge and tractor parties which unearthed amazing new data of Antarctic biological and geological import; the amusing incidents of the day by day life at Little America; these are stories to hold the absorbed interest of any audience.

Nine thousand feet of new motion pictures flash before your eyes the hazardous and inspiring exploits of the Byrd Antarctic Expedition II. You take off with the Admiral and his gallant crew in the big Condor plane on what are now historic flights of exploration—flights which have added 450,000 square miles of hitherto unknown territory to the Pacific Quadrant of the Antarctic Circle.

You see the rebuilding of Little America, where during two black winters, 56 men lived buried alive under the ice. You see the strange life of the dead continent—the penguins, seals, skua gulls, snowy petrels. You follow Byrd on his further exploratory flights which revealed that Antarctica is one continent and that the Antarctic mountains are probably a part of the Andean chain. And most inspiring of all, you glimpse Admiral Byrd at Advance Base, just before he began his solitary vigil 123 miles south of Little America where, in a tiny hut, in complete isolation, without a companion nor a single living thing, he maintained the world's southernmost weather station during five months of monstrous and monotonous Polar night.

Never before has a group of men spent the length of time on the Antarctic continent which the recent Byrd Expedition did. Arriving in January of 1935, it summered there, lived
through the terrible South Polar winter, pursued its scientific and exploratory operations through another summer, and shoved off for home just as the second winter began to close in. The adventures encountered during this protracted sojourn, now told for the first time by the famous explorer and correlated with the scientific achievements of the Expedition, will make an event of unparalleled interest. Among the subjects studied by the Expedition during its field operations were astronomy, meteorology, physical oceanography, biology, oceanography, vertebrate and invertebrate zoology, mammalogy, physiology, glaciology, stratigraphy, petrography, paleontology, tectonic and economic geology, geophysics, physical geography, cartography, physical and terrestrial magnetism, bacteriology and botany.

Admiral Byrd himself has been the recipient of almost every honor the United States government can bestow. His elevation to the rank of Commander after his historic North Pole flight, and to the rank of Rear Admiral after his conquest of the South Pole by air, were both brought about by special act of Congress. In addition he has twenty-one citations on official record. It remained, however, for his recent Expedition to elicit the highest honor which any incoming celebrity, native or alien has ever received. It has hitherto been the custom for the President of the United States to receive distinguished visitors at the White House. But in order to greet Admiral Byrd upon his return after two years' absence, President Roosevelt himself went down to the dock of the Washington Navy Yard, and on May 10, 1935, saluted Byrd in the name of the nation, as he stepped off the vessel. Congress, three days before, had passed a resolution expressing the nation's gratitude for the "achievement in successful and heroic exploration," and a joint committee of Congress also greeted the Expedition members as they disembarked at the Navy Yard.

"The sun left me today and I won't see it again till August 24," wrote Admiral Byrd, on
Mountainous Antarctica—two men of the Byrd Expedition, exploring.

with the ice-cap, reigned the white immensity of the Antarctic mustering its forces to rub out this final impertinence of man with blackness and blizzard.

But so far the winter night had begun peacefully.

When Admiral Byrd comes here to tell the story of his latest Antarctic Expedition, on Saturday, March 28, 1936, at the Metropolitan Opera House, under the auspices of the Philadelphia Osteopathic Hospital and its Clinics, and touches on this matter of how he maintained this five months' vigil at the coldest spot ever inhabited by man—the temperature went down at times to eighty degrees below—he will be dealing with one of the most important purposes of the entire undertaking. This was to study weather conditions in Antarctica which is the weather-maker for a large part of the entire Southern Hemisphere. Little America was on the seacoast, and the weather was naturally tempered by the presence of the ocean. It required then that somebody go far enough into the interior and make observations over a period of time.

This then led to the establishment of the ice-buried shack which was called Bolling Advance Base, and Byrd undertook to maintain it alone because it could not accommodate three, and it is admittedly undesirable from a psychological viewpoint to send two into isolation.

"The day is coming when a chain of permanent weather stations will be established in Antarctica," Byrd said before starting on this project which all but cost him his life. "The data they collect are indispensable to long range forecasting. Advance Base may help to start the ball rolling."

It is difficult for us sitting here more or less comfortably in what we learned in grammar school days to call the North Temperate Zone—to realize that the South Pole can reach out its icy fingers and touch us up here.

"But," said Byrd, "people are beginning to realize that Polar weather isn't a subject peculiarly interesting to explorers alone. The Antarctic is a world center of meteorological action, and the masses of cold air, breaking away from the ice-cap—the so-called Polar front—have a direct bearing on the climate of South America, and indirectly upon the climate of the world."

On March 22, Byrd flew from Little America to Advance Base, and a week later bade farewell to his men.

"The tractors are off at last," he notes in his diary, "and at 12:10 noon I commence my isolation. For more than 200 days, I shall see no living thing . . ."

What happened will be seen in his moving pictures.

The Publicity and Publication office of the Philadelphia College of Osteopathy assorting and mailing hundreds of tickets for the annual Charity Ball and Dinner to be held February 22nd at the Penn Athletic Club, and for the personal appearance of Rear Admiral Byrd and his nine thousand feet of film to be presented at the Metropolitan Opera House on March 28.
ENGLISH DEPARTMENT INITIATES COURSE IN PUBLIC SPEAKING

By DONALD NELSON KOSTER

What boots it thy pleasure?
What profit thy parts?
If one thing thou lackest,
The art of all arts?

THE above lines, from Ralph Waldo Emerson, are particularly true when applied to one who must come in contact with the public so frequently as does the practicing physician. If a good doctor be not as well a good speaker, his road to success is sure to be tenfold longer and harder than if he were. For people must have confidence in their doctor if he is to help them, and the quickest way for him to instill that confidence is for him to talk to them fluently, convincingly, and conversationally. We have all heard of the "bedside manner," and we have heard it said of a doctor that he has or has not a pleasing bedside manner. And you may be quite certain that in most cases, it is the doctor with the pleasant manner and way of speech who is most liked and highly thought of. Charm can do as much to heal as pills can, and it can be of infinite value especially to the osteopathic physician, whose contact with patient is usually closer and more personal than that of the medical doctor.

It is not only in contact with his patients, however, that a doctor will be called upon to talk. If his practice be in a community of limited size, the chances are that he will be regarded as one of the town's leading citizens, and consequently will be asked to talk at clubs, banquets, luncheons, civic meetings, and many other community occasions. If he be situated in a large city, his opportunities to speak may be more limited yet let him show his ability in this field, and offers will flood his door. More likely than not, he will be singled out for preference and distinction. This very power of speech lifted such men as Lincoln and Webster into the seats of the mighty.

Then there is the convention to be considered. Every year the osteopathic colleges meet to discuss their problems and to read papers telling of significant work in the field. And here, as in every assemblage,—the man with the voice and the ability to use it to advantage, wins listeners and acclaim. If Dr. A. has written a remarkable speech on the Relation of Physics to Osteopathy, and delivers it in a mumbling monotone so that only line of the course which has been planned:

I. The Organization of a Speech
II. Preparation for Delivery
III. Study of Action: Gesture, Posture, Movement
IV. Study of Voice: Pronunciation, Enunciation
V. Study of Kinds of Speeches
VI. Speech Criticism
VII. Practice in Public Speaking
VIII. Practice in Public Reading
IX. Presentation of Guest Speakers

County Society Hears Dr. Randall

Two hundred Osteopathic Physicians and guests attended the regular monthly meeting of the Philadelphia County Osteopathic Society, under the able direction of Dr. H. Willard Sterrett, president.

"Silent Renal Pathology" was discussed by Dr. Alexander Randall, who was associated for several years with Hugh Young, M.D., at John Hopkins. The speaker is now Professor of Urology at the University of Pennsylvania and also Chief of the Department of Urological Surgery in the same institution as well as Consultant to many other large hospitals. He is author of several books and is internationally recognized as an authority in his specialized subject.

Dr. Paul T. Lloyd assisted Dr. Randall with X-ray Urological slides which added to the tremendous interest of a well planned program.

Intern Examination Date Set

The annual competitive examination for internship in the Osteopathic Hospital of Philadelphia will be held on Saturday, February 29, 1936, in the college. The examination is open to graduates from reputable osteopathic colleges who present satisfactory evidence of having completed their undergraduate requirements. Members of the present senior class, who will have completed their four-year osteopathic course by June and who hold an accepted qualifying certificate are eligible. Applicants are requested to make their application to the Dean's Secretary without delay.
WOMEN'S AUXILIARY

Successful Card Party

THE Women’s Auxiliary of the Hospital held a very successful card party in the South Roof Garden of the Bellevue-Stratford on Saturday afternoon, January 18th.

The Women’s Auxiliary, which has been carrying on the work of supplying linens for the hospital and nurses’ home since 1919, badly in need of help, decided to have this affair for the purpose of renewing its much depleted treasury.

In addition to a good game of bridge, there was a sale of home-made dainties, such as jellies, candies and cakes which would weaken the resolution of even the most adamant “dietee.” There were also the usual attractive bridge prizes and some very interesting door prizes as well.

The Executive Board has as its president, Mrs. H. Willard Sterrett, while Mrs. Edgar D. Doyle and Mrs. H. Walter Evans are first and second vice-presidents, Mrs. William Baldwin, Jr., is recording secretary and Miss S. Frances Van Kirk is corresponding secretary.

Miss Lillian R. Jackson is treasurer as well as being chairman of the following committees: Ways and Means, Miss Mary A. Thomas; Publicity, Mrs. T. K. Witwer; Sewing, Mrs. Edgar D. Doyle; Hospital, Mrs. E. E. Van Horn; The Nurses Home, Mrs. H. L. Jacoby; Program, Mrs. Julian Bailey; Auditing, Mrs. Wm. H. Cumberland.

The committee for the card party included: Mrs. Peter H. Brearley, Mrs. E. D. Doyle, Mrs. E. E. Albert, Mrs. H. L. Jacoby, Mrs. E. E. Van Horn, Mrs. W. Armstrong Graves, Mrs. Spencer Levengood, Mrs. William Baldwin, Mrs. T. K. Witwer, and Miss Flora Schreiber.

Hold Musical Program

ON TUESDAY evening, February 11th, at 8 P.M., there will be a Musicals given for the benefit of the Women’s Auxiliary. The artists who will be heard are Mrs. N. Carminara, well-known soloist; Miss Helen Mac-Henry, a very clever and popular reader; and the Newton Coal Trio.

The executive has been carrying on the work of supplying linens for the hospital and nurses’ home since 1919, badly in need of help, decided to have this affair for the purpose of renewing its much depleted treasury.

In addition to a good game of bridge, there was a sale of home-made dainties, such as jellies, candies and cakes which would weaken the resolution of even the most adamant “dietee.” There were also the usual attractive bridge prizes and some very interesting door prizes as well.

The Executive Board has as its president, Mrs. H. Willard Sterrett, while Mrs. Edgar D. Doyle and Mrs. H. Walter Evans are first and second vice-presidents, Mrs. William Baldwin, Jr., is recording secretary and Miss S. Frances Van Kirk is corresponding secretary.

Miss Lillian R. Jackson is treasurer as well as being chairman of the following committees: Ways and Means, Miss Mary A. Thomas; Publicity, Mrs. T. K. Witwer; Sewing, Mrs. Edgar D. Doyle; Hospital, Mrs. E. E. Van Horn; The Nurses Home, Mrs. H. L. Jacoby; Program, Mrs. Julian Bailey; Auditing, Mrs. Wm. H. Cumberland.

The committee for the card party included: Mrs. Peter H. Brearley, Mrs. E. D. Doyle, Mrs. E. E. Albert, Mrs. H. L. Jacoby, Mrs. E. E. Van Horn, Mrs. W. Armstrong Graves, Mrs. Spencer Levengood, Mrs. William Baldwin, Mrs. T. K. Witwer, and Miss Flora Schreiber.

FLASHERS

Dr. R. Arthur Fish discussed “Osteopathic Care of Athletes” at the December meeting of the Osteopathic Society of the City of New York. A general discussion on “The Treatment of Rheumatic Disease, particularly in Relation to Atrophic and Hypertrophic Arthritis” followed.

The January meeting of the New York Osteopathic Society was held at the Waldorf Astoria with Dr. Ralph P. Baker, of Lancaster, Pa., speaking on “Office Procedures for the Estimation of Renal Function,” dealing with the latest developments in the technique and interpretation of the Merensental Test. A discussion from the floor followed.

Dean Edgar O. Holden attended the Executive Board Meeting of the American Osteopathic Association, in Chicago, on Saturday and Sunday, December 28th and 29th. He also inspected the Chicago College of Osteopathy and Hospital.

Founders’ Day Exercises will again be observed on Saturday morning, February 22, 1936, in the College Auditorium. Honorary Degrees will be conferred by the Board of Directors.

Over one hundred applications have been received for entrance to the Graduate School, starting September, 1936.

Seventy-five physicians now attending the Graduate School are holding weekly meetings, under the direction of Dr. Francis Finnerty, and planning definite activities for this organized group.
EDITORIAL

NOW, more than ever, our School and Charity Ball need our whole-hearted support. As you know, the standards of admission to Osteopathy have been raised, thereby placing our institution on a par with medical schools of learning. This move necessitated a loss of revenue, which brings down somewhat the financial condition of the school. These higher standards will benefit each and every student now at Osteopathy, both in the field of practice and in the undergraduate school. The one way by which you as an individual can show your appreciation and whole-heartedness in this matter is to support our Charity Ball. Everyone should and can sell one book. Get busy now; don’t put it off any longer. Sell that book or ticket.

Last year less than seventy-five books were sold by the student body. Everyone knows what a success, both financially and socially, the ball was. As Osteopathy is a progressive science, why cannot everyone this year sell one book or ticket? Compare last year’s figure of seventy-five books sold, with the four hundred books expected to be sold this year. To do this, you must get busy now. Let’s put over this Ball as it has never been done before.

Osteopathy must go forward! Do your part! George B. Hylander.

OSTEOPATHY DEFEATS WEST CHESTER STATE TEACHERS

COMING from behind after dropping the 100-yard relay, the Philadelphia College of Osteopathy swimming team splashed its way to a decisive victory over the West Chester State Teachers College swimmers in the opening meet of the season at West Chester by the score of 41-25.

Simon Lubin, sprint performer for the maroon and gray squad and Rugerio Flocco, Middle Atlantic A. A. U. fancy diving champion, took the individual honors for the afternoon capturing two victories apiece. Lubin defeated Captain Bud Hylander in both of the sprint races by close margins, while Flocco scored wins in both the diving and the 100-yard breaststroke events.

The opening event, the 100-yard relay resulted in the first of the two wins scored by the Teachers. This was a surprise victory for the losers who were not counted on as serious contenders against such a fast quartet of swimmers as Perry, Flocco, Hylander and Lubin. A bad start lost the osteopaths the slight margin that they were unable to overcome. The winning time was 1:20.

In the diving, Flocco amassed a total of 75.5 points against his former teammates. His nearest rival, Kent of West Chester garnered 53.7 points.

Si Lubin and Bud Hylander teamed up for the 40-yard freestyle and came through in great fashion. From the very start of the race, there was no doubt as to the winning team but the ultimate individual winner was doubtful until the last lap, when Lubin sprinted ahead of Hylander and won by a close margin in the fast time of 19.6.

The second victory of the meet for Flocco came in the 100-yard breaststroke, when he outclassed the other starters and won in handy fashion. Henry Burnard, of Osteopathy finished in second place ahead of Leftowitz, of West Chester. Time 1:23.3.

The State Teachers captured their second win of the meet in the 100-yard backstroke, when Gray defeated Dick Koch, of Osteopathy. A great deal of credit goes to Koch for his splendid showing in his first race in intercollegiate competition. Gray led all the way but was pushed by Koch until the final lap when Gray forged into the lead and won by five yards. Time 1:14.

The 100-yard freestyle once more produced a dual between Lubin and Hylander, with Si winning after a close race. Both got off to beautiful starts and for 4 laps swim neck and neck. But as in the 40-yard event, Lubin put on a sprint that carried him across the line in front. The pool record for this event is still held by Hylander, of 54 seconds flat. The winning time for Lubin was 55.2.

Perry, of Osteopathy gave an excellent performance in winning the 220-yard freestyle. From the start of the race, Perry started out in the lead and was never threatened. He finished going away and was clocked in 2:46.

HAVE YOU VISITED THE LIBRARY?

OF COURSE this will not be news to everyone, but there are many students who seldom and some who never visit the library. Some day, when your hours are so arranged, make a special effort to come into the library and browse around. This year many new books have been placed upon our shelves and our periodical section has increased extensively. The American Medical Journal, a weekly publication, arrives on Monday, and the American Osteopathic Journal is sent to us during the second week of every month. The new monthly subscriptions are:

- American Journal of Obstetrics and Gynecology
- American Heart Journal
- American Journal of Diseases of Children
- Archives of Otolaryngology
- Archives of Neurology and Psychiatry
- The Journal of Infectious Diseases
- The American Journal of Physiology

The Kentucky Progress Commission is sending a quarterly to our library The Kentucky Progress Magazine, which is devoted to lavishly illustrated articles that are concerned with Kentucky's native lore, natural resources, historic background and scenic features. Any students interested in locating within the state may gather some knowledge of the development of progress from this magazine.

The British Osteopathic Review informs one of the "goings on" in other countries.

There have been many welcome contributions made to the library this year. In fact, our number of volumes have increased to 158 new books; some are sets of books but every one is interesting and valuable from a cultural and medical point of view.

The new bulletin boards are helpful and time saving this year. A visitor no longer is required to scan the old in search of the new, since all new books are listed and posted upon the bulletin board. As each periodical arrives, an announcement is made on the board marked "Current Magazines." If you are hesitant and avoid the library because you do not understand the shelving arrangement and are unable to locate the exact book you wish, come in, regardless and the librarian will be very glad to help you.

The following is a list of books donated to
TABLE-TENNIS

IT SEEMS that our faculty and interns have among them several members who are especially adept at wielding a ping-pong paddle or bat. The mention of a faculty-student match brought considerable interest on the part of the faculty who said they would “take us on any time.”

A notice was posted requesting recruits from the student body. The response was gratifying and before many days we had a list of about thirty names. Most of these reported for tryouts and an elimination match was arranged to determine the best players. Those who finally won out were: Reed Speer, Bud Hylander, Lu Spence, Art Bunting and Steve Adams.

This group of five met the faculty in the school auditorium one evening this winter. Drs. Gruber, MacDougall, and Frey presented themselves for the match. Some difficulties arose and prevented Drs. Root and Barnhurst from being there. Dr. Barnhurst, you know, is an expert player, so maybe it is just as well for the students’ score that he did not arrive. Incidentally, the students lost by a score of 6-5 as it was; this included two defaults. After exams are over we will be back for revenge.

The type of game used by most of the students represents the original method of play. They stand close to the table and make ineffective short shots, which, to a spectator, is very dry and uninteresting. The modern game of table-tennis requires tennis shoes and agile feet to move them; an accurate eye, and quick muscular response. It has become a major sport in foreign countries, which accounts for the fact that the world’s champion is a native of Hungary and not of the United States. This young gentleman to whom I refer played twenty-one matches against the best players in the United States. He lost only one game and triumphed over our present national champion by scores of 21-12; 21-7.

I would suggest, if you are at all interested, that you see the next major table-tennis event in your locality. You will probably be surprised to see one player run twenty to twenty-five feet behind the table to return that little white sphere.
THE AXONE SUPPLEMENT

What power our Joe has over women! A certain case of Exophthalmic Goiter was presented in the Amphitheater not too long ago. It was an interesting case from the standpoint of Symptomatology, but Joe appeared to look upon the case in a different light. More power to you, Joe!

Donald S. Gibbs upon being interviewed for an article for the Digest took this interview lightly. He bluntly reported, "Why, yes, Frank, I’m expecting a baby." Little did he know what news this was.

Steve Adams again comes to the fore, but we will let him reveal the mystery. If you will notice, Steve is wearing a nurse’s ring. Perhaps if you ask him, he will tell you whose it was.

Some of the highlights of the vacation season are—Anna Mae Dunlevy has moved to West Philly which is nearer the school. She reports this makes it much easier to carry out her New Year’s Resolution of getting to school early. Al Hoffman has returned to class after a prolonger vacation. Al left a week before the holidays and we wondered if something might have happened to him. Bob Whinney spent the holidays with a severe case of Otitis Media. That’s tough luck, Bob, but it might have been worse!

The Interclass-Interfraternity Indoor Track Meet proved to be a landslide in favor of the Junior class, held in high admiration by all but Tony Barba­nera—a graduate of various schools throughout the east and a teacher at such schools, who lacks very little in verbal, written or drawing expression—in fact any number of his sketches have been used for demonstrative purposes. When called upon in class Tony leans to the right, his right elbow on the desk and his hand supporting the latero-flexed head. The left arm is flexed out like a bird’s wing, the hand returning to rest upon his hip. As the recitation starts his right hand brushes back to the posterior part of his head, then his eyelids slowly close to make his eyes more slits. Suddenly he whips his right hand around to the front of his face, just low enough to expose a closed left eye and completely opened right eye. As his hand passes down his lips become screwed to one side, and are finally drawn in as if he is munching his lips—a slight pause—and then he blurs out the highlight of the recita­tion—a fitting climax.

divides, some going to the front and others to the rear, is gradually disappearing—all the seats being pushed to the fore.

The class wishes to express their thanks to Dr. Holden for the thoroughly enjoyable Christmas Party that he sponsored, to which we intend to respond wholeheartedly with our sale of Charity Ball chances and attendance! "Wolf" Topping, who always makes the most of everything was right in his prime at the dance, as he expresses it—"Everything was ready."

We also wish to express thanks to the authorities for the installation of a bulletin board and coat rack, both of which increase the efficiency and appearance of the room.

A most interesting scene can be observed during Dr. Soden’s technique classes. As Dr. Soden dictates and demonstrates, thus each student's arms follow in mechanical perfection—trying to be both the operator and patient at the same time. Each head rotates and flexes, each back rotates, the legs are flexed on the hips—all looking like a piece of Rube Goldberg’s sculpture, but which later on will assume harmonious manipulative expressions that can only result from such practice.

We would like to present a member of our class, held in high admiration by all but unfortunately only known to us. Tony Bar­nera—a graduate of various schools throughout the east and a teacher at such schools, who lacks very little in verbal, written or drawing expression—in fact any number of his sketches have been used for demonstrative purposes. When called upon in class Tony leans to the right, his right elbow on the desk and his hand supporting the latero-flexed head. The left arm is flexed out like a bird’s wing, the hand returning to rest upon his hip. As the recitation starts his right hand brushes back to the posterior part of his head and then his eyelids slowly close to make his eyes more slits. Suddenly he whips his right hand around to the front of his face, just low enough to expose a closed left eye and completely opened right eye. As his hand passes down his lips become screwed to one side, and are finally drawn in as if he is munching his lips—a slight pause—and then he blurs out the highlight of the recitation—a fitting climax.

SOPHOMORES

As THE best heads in the country go round-an’round so do the best in the class go ‘round-an’ ‘round. With finals approaching (and perhaps past as this issue gets into your hands) the class assumes a most studious attitude, the query now being “What do we have for tomorrow?” rather than “What did we have yesterday.” Hours of seventy-minute proportions assume to be only thirty minutes long (or rather short). There is no rush to leave the room at the termination of a class, even the open spot in the room which occurs when the class

FRESHMEN

Good resolutions are made to be broken, so it is wise to publish them to prove the world is bound to improve sooner but probably later. Well!

Ruberg resolves not to take Winchell’s column in the Daily Mirror but to devote his entire energies to the Digest.

Weaver resolves to cheer up—there are always week-ends.

Smithson resolves he won’t always get the highest mark in the class.

Clark (Gable) resolves that a clean-shaven face is more professional.

Davis’ associates resolve to make him join the Holy Name Society.

Pugly resolves to put away the night life, socially as well as intellectual.

Kramer and Chaitin resolve that “love makes the world go ‘round.”

Jones resolves to be Jealous.

Sorenson resolves to give us another good one, like the one about the new inflammation, “Suliotis.”

Riddell resolves not to question the authority of the blonde Smith.

Gerhardt resolves to find out what it’s all about.

Jay resolves not to lend his embryology text until after mid-years.

Larry Brown resolves not to reorganize any more Freshman dances.

The entire Freshman class resolves that mid-years have arrived all too soon.

PRE-O

Deuce! No, it’s not an oath! Merely the score! What? You haven’t heard? The Pre-O’s have a ping-pong team (several of them, in fact) and we have a football team, including drawbacks, mudguards, snaffles, and even an “Aqua Homo!” Part of the physical exercise advocated by the doctors to revive us after the sweet oblivion of the Holidays!

Dropped into a swirling whirlpool of reviews and exams, who could remain in such a state? The Pre-O’s? Only time and Mid-Years will tell! Maybe we’ll surprise you! Another of our colleagues “couldn’t take it,” and left us. Now only twenty-five remain. But we chug along in our new “self-starting, rudderless Amoeba o’s” (which really are a bargain!) and the “chugging” brings us to our feet, as it were! We’re beginning to realize where we are and why! And are we “going to town” on those chemistry experiments and logarithms! So fear not, professional students! For with this elucidation comes an assurance that we’ll do our best to be a credit to P. C. O., if the Seniors will please omit “The Music Goes ‘Round and ‘Round” from their repertoire at their concert outside the Physics Lab!!
BASKETBALL

THE month of February will see the Philadelphia College of Osteopathy basketball team facing its toughest competition when it meets such teams as Juniata, Albright, Swarthmore, Susquehanna and Gallaudet.

Starting on February 7, the Osteopaths coached by Jimmy Dessen, will oppose Albright at Reading and the following night will travel to Huntingdon and play the Juniata College quintet. Two games in three days is the next obstacle that Osteopathy faces following their trip up-state. Susquehanna University and Swarthmore College will oppose the maroon and gray five on February 13 and February 15, respectively. Both games will be played in this city.

Coach Dessen will take his team to Washington, D.C., on February 21, to play Gallaudet College and on February 27, will play a return game with Juniata at the West Branch Y. Another return engagement follows on Saturday, February 29, when they meet Gallaudet College. This game will also be played at the West Branch Y. The final game of the season will bring Elizabethtown College to this city on March 6.

Following the mid-year examinations which will be completed on Monday, January 27, the varsity five will start preparation for its two-day trip to Huntingdon and Reading. Coach Dessen is in hopes that the team will come back to the city with two victories tucked away.

The five men who are virtually certain of starting against Albright are: Henry Maciejewski and Art Bunting, who have performed brilliantly in all games thus far, will be at forwards; Bill Furey, at centre; Captain Bud Hylander and Martin Schnoll, high scoring ace of the Osteopaths, will play guards.

Other members of the squad who will make the trip to Reading and Huntingdon, in addition to the five mentioned above are: Norman LaBove, 6 ft. 4 in., candidate for centre; Henry Marzullo, Reed Speer, James Hotham, Don Hurd, Dick Jameson, Elias Korn, and Bob Cooper.

PHI SIGMA GAMMA

A T OUR last two dinner-meetings, we have had Dr. Copp and Dr. George for our guest speakers. Dr. Copp gave a very interesting discussion on "Dietetics" that proved of interest to all. He did much toward explaining just why Diet is such an important factor in our method of therapy. A fine lecture on "First Aid," with actual demonstrations was given by Dr. George at our last meeting. Many interesting and valuable practical points were gleaned from the few hours that Dr. George spent with us. We thank you, Doctors, for your time and interest.

We are glad to see that two Phi Sigs have once more regained their health. Dr. Struse had quite a siege of illness in our hospital and we are glad to see him on the convalescent list. Brother Sam Scott added to the collection of Dr. Pennock by presenting him with another slightly used appendix, for a Christmas present. We welcome these men back with us again.

Phi Sigma Gamma is well represented among the men now taking advantage of the Post Graduate Courses in P. C. O. We have seen Drs. Sinagra, Devine, Powell, Eddy, and Durkee circulating about the corridors. If any more Phi Sigs are here, we urge them to make themselves known to us. We congratulate these men on the progressive attitude which we believe to be an outstanding characteristic of the Osteopathic profession as a whole.

JUST A MOMENT

By STAN BAUMGARTNER

(Copied from the Philadelphia Inquirer)

A T A father and son get together in the Mediator Episcopal Church, Tuesday night, I met Harold Osborn, the great high jumper for the first time.

Osborn, surprised and delighted the throng as well as the writer by clearing the bar at six feet—an astonishing feat in view of the conditions under which he was asked to jump.

Most astonishing, however, is the fact that at 36 years of age when most of us are reaching our peak height which he attained almost twenty years ago.

Osborn must be ranked as one of the most outstanding track athletes of all times.

SEVEN FEET!

In an informal interview conducted in the presence of the 200 guests, I asked Osborn several questions to which he gave interesting answers. One of the first had to do with the present high jump mark.

Did he think that anyone would eventually clear 7 feet?

"There is a colored boy out on the coast at this present moment, Corney Johnson, who I believe will clear seven feet before the year is out," said Osborn.

In twenty years of competition, high school, college and A. A. U. meets, Osborn has cleared 6 feet 3000 times. Think that over.

Does he still get a kick out of jumping?

"I certainly do. I keep at it when a lot of men think I should put the shoes in moth balls, but too much exercise robs you of the zip and force than hours of impassioned oratory of less sincere type.
Juniors Win Interclass Swimming Meet

ROLLING up 76½ points to rout their nearest rivals the Sophomores, who totalled only 23 points, the Junior class of the Philadelphia College of Osteopathy captured the interclass Indoor Gym Meet held at the West Branch Y., on Saturday afternoon, December 12.

Bill Furey, all-around athlete of the Junior class, was the high point individual with 23 points, taking four firsts. In addition, he tied for one fourth place. J. Hotham and J. Hughes, of the Junior class tied for second place with 13 points apiece.

The Iota Tau Sigma fraternity continued its brilliant performances by taking the interfraternity championship from the Phi Sigma Gamma by the score of 29½-40. This is the second title that the Its have annexed in the past two months, having won the inter-fraternity swimming championships.

The meet was under the direction of Harold Osborn of the Junior class and former Olympic titleholder. Osborn gave a short exhibition in the standing high jump, an event in which he holds the unofficial world's title of 5 feet 3½ inches.

Lambda Omicron Gamma

AS THE time draws near for initiation, the L. O. G.'s are looking forward to a highly interesting induction of new members. The fraternity is pointing toward this affair with a view to making it the most successful in its history.

Another affair is drawing near also, which, to us, is of equal importance. Is it necessary to say that this is the Fourth Annual Charity Ball? Our desire this year has been to make our attendance the greatest since the initial event. Plans have already been made for the taking of a fraternity box, as well as tables for the dinner preceding the Ball.

As this Digest edition goes to press, we are almost under a deluge of examinations, and thus we take this opportunity of wishing our schoolmates the best of luck in hurling their individual obstacles.

Theta Psi

SINCE the last issue of the Digest, paddles have once more been active at Theta Psi. John Lanese and Warren Mullhollan have been given their final degree in initiation and have been admitted to active membership of the chapter.

When the smoke of mid-years has rolled away, we will be looking forward to an interfraternity bowling tournament to loosen up that writer's cramp.

Its Win Inter-Fraternity Basketball Championship

FOR the third straight year, the Iota Tau Sigma fraternity won the Inter-Fraternity basketball championship when they defeated the Logs in the final game of the tournament at the West Branch Y., by the score of 34-23, on Thursday evening, December 12.

The first half resulted in a tight battle with the Its holding the advantage, 20-17. Reed Speer and James Hotham kept the Its in the battle with their spectacular shooting, netting three field goals apiece. Joe Hughes, centre for the Its, had his hands full in guarding Norman LaBove, 6 ft. 4 in. pivot man for the Logs. LaBove's superior playing netted him four field goals.

The Logs were unable to cope with the strong passing attack staged by the Its in the second half and were content to score a lone field goal by Livingston. Don Ulrich, of the Its, finally hit his stride after netting only two twin pointers in the initial half and scored four field goals to cop the high scoring honors for the game with 12 points. Speer, of the Its and LaBove, of the Logs shared second place with 10 apiece.
FUTURE OF THE COLLEGE
(Continued from page 24)
and that the Osteopathic Colleges should give due consideration to the problem of better selection of applicants to their respective schools.

Dr. Thorburn announced that he was leaving shortly for Chicago and then on to Kirksville where he will again address the Osteopathic Colleges on Socialized Medicine and New Educational Requirements.

ORTHOPEDIC SHOES
By FREEMAN

- In close cooperation with eminent authorities, and in line with the most scientific, modern ideas, Freeman has designed orthopedic shoes to alleviate and correct foot ailments. Doctor’s Prescriptions are carefully filled. Shoes of special construction, designed on our exclusive health lasts, or according to the prescriptions of the doctor, are built right on our premises.

for Men

Women

and Children

THE FARE-WAY
THE HOME-LIKE PLACE
48th Street at Hazel Avenue
Permanent and Transient Guests
Meals You Remember Long After—You are a Stranger But Once.
BREAKFAST LUNCH DINNER

Music was furnished by the Ritz-Carlton Hotel Ensemble and during the evening Cecil Pennyfeather, a Philadelphia columnist, and Ed Sullivan, a New York columnist, were introduced to the faculty by Dr. François D’Elisçu.
Do you want a new automobile?

On Saturday, February 22, at the Penn Athletic Club, the FOURTH ANNUAL CHARITY BALL will announce the Annual Clinic Gifts

A 1936 FORD COACH
A TRIP TO BERMUDA
AN ELECTRIC REFRIGERATOR
A PHILCO AUTO RADIO
A CHEST OF COMMUNITY SILVER

"4,000 Clinic Patients are Being Helped Each Month."

Secure more contributions! Help Us to Help Others

Make checks payable to Osteopathic Hospital Charity Ball.

The 1936 Ford will be furnished by the BURNSHAW AUTOMOBILE CORP. 4225 Chestnut Street
ADMIRAL BYRD'S personal appearance in Philadelphia on March 28th at the Metropolitan Opera House has created tremendous interest. The Philadelphia Osteopathic Hospital and its Clinics, which are sponsoring this event, warrants support. Come and see the nine thousand feet of film and meet the great Antarctic explorer. Every seat at one dollar ($1.00) and one dollar and fifty cents ($1.50) is ready for distribution.

Please make reservations now! Mail checks to Dr. Francois D'Eliscu, Manager.

Phone ALL. 9300 or SHE. 9090 or write to the Osteopathic Hospital, Philadelphia.