1-31-1916

The Pulse, Volume 10, No. 5, 1916

University of Nebraska College of Medicine

THE PULSE

Vol. X Omaha, Neb., January 31, 1916 No. 5

SOME PHASES OF METABOLISM.

It would seem that a brief resume of recently worked out facts on metabolism might be of interest, particularly since the subject is so filled with possibilities and lends itself so well to clinical applications. No claim for orginality whatsoever is made. The material has been taken from a number of sources. Some of the references consulted will be found below.

It is important in the beginning of a discussion of proteid metabolism to first of all establish clearly the essential errors in the older conception of proteid splitting and absorption. It is no longer tenable that proteids are split into and absorbed as peptones. It is now established beyond doubt that proteids are normally split into amino-acids, which number probably not more than twenty, which are ALL ESSENTIAL to the reconstruction of normal body proteid and which are absorbed into the blood as such. The importance of each single and individual amino-acid is probably equal although the percentages in proteins vary widely. There is probably no difference between amino acids of plant or of animal origin. The essential thing, therefore, in each given proteid is its amino acid content or constitution.

It is well understood that the various body activities require different amounts and proportions of amino acids. All proteids as noted, do not produce on splitting ALL amino acids. Hence, an adult may be sustained in nitrogen equilibrium by means of a proteid which does not yield a certain amino acid whereas a growing individual would not gain weight. For example, Mendel and Osborne have shown by means of experiments upon albino rats that some proteids, as the proteid of milk, edestin of hemp seed, albumin of white egg, are capable of satisfying the needs of the body at all stages of development. Analyses of the aforementioned proteids shows the presence of all the amino acids. But, when gliadin of

wheat is fed as the sole protein adult animals are sustained but growing animals cease to increase in weight. If, however, the amino acid lysin be added to the gliadin diet, growth is resumed. Gliadin is found to be practically devoid of lysin which particular amino acid is essential to the formation of the proteid complex. The most important protein of corn (maize) is zein. This particular protein does not contain lysin, or tryptophane or glycocol. Zein is, therefore, wholly inadquate to supply the protein needs of either adult or growing individuals. If lysin be added to zein, adults will be maintained without growth; if lysin and tryptophane be added growth and adult maintenance will be normal. We have long noted the marked inability of gelatin to maintain nitrogen metabolism. Gelatin is lacking wholly in tyrosin and tryptophane. Add tyrosine and tryptophane to gelatine and a normal proteid maintenance is established. This latter fact has been proven by Abderhalden* when he showed that completely decomposed gelatine, in the addititon of a mixture of amino acids containing tyrosine and tryptophane, could be made equivalent to proteins.

It is certainly clear that safe deductions may be made from the foregoing facts. If zein does not contribute to growth, if it will not maintain growth, it follows that children's diet largely made up of corn products is DECIDEDLY FAULTY. The feeding of very large amounts of food derived from corn will not overcome this lack of tryptophane and lysin.

In most instances excess feeding of improperly balanced protein brings with it a train of putrefactive splittings which are in themselves toxic. This is evidenced by the appearance in excess in urine and feces of indol and skatol. It is known also that from the normal amino acids, arginin, lysin, tyrosin and histidin, putrefactive processes give rise to putrescin, cadaverin, tyramin and histamin respectively. These are probably end products of bacterial action upon amino acids. Indol and skatol are putrefactive products of tryptophane. Foods low in tryptophane will reduce the possibility of this form of putrefaction; viz. gelatin from which no indol or skatol can be derived. Ptomaine are in all probability amino acids which have undergone bacterial fermentation.

The formerly accepted view that uric acid is a result only of red meat ingestion is now known to be erroneous. Except as red meat be rich in hypoxanthin no uric acid results. All nuclei contain neucleoproteins. These yield purin bases. Exclude all material rich in nuclei from the diet and you exclude the precursors of uric acid. Liver, pancreas, kidneys, and brain, if eaten will produce the maxium of uric acid. Not only may uric acid be regulated but a careful study of food effects will show that the aklalinity of body fluids may be greatly increased by foods furnishing a surplus of OH ions. Potatoes and apples are base forming.

Clinical applications of these newly established facts as yet are

---

*Zeit fur physiolog. Chem. 77.

few. Tyrosine under putrefaction yields tryamine and in man will cause a marked rise in blood pressure. In arterial hypertension any food which yields tyrosine under probable conditions of putrefaction would be contra indicated. Casein yields 7 per cent of tyrosine hence milk is not an ideal food in this condition. Cereals and fruits yield but little tyrosine. Under similar conditions histamin is formed from histadin. This particular derivative of histadin has been studied pharmacologically. By injecting histamin, violent bronchial spasms are induced. By the elimination of histadin yielding proteins from the diet, the condition of bronchial asthma, if existing from this cause will be greatly relieved. The yield of histadin is 2.5% from casein, 10% from haemoglobin, 2.9% from legumin, etc. Low yields of histadin are found in the proteins of rye, corn and gelatin. No histadin occurs in salmon.

Fats also play an important role. If young rats are fed upon a complete carbohydrate, a complete protein, and lard, they will attain only about two-thirds the normal growth. If butter fat be substituted for a portion of the lard, growth is resumed and the rate soon reach normal adult weight. Milk acts as a perfect food in the rat experiments no change being noted by pasteurization of the milk. We owe to Mendel and Osborn the series of rat experiments which have proven so illuminating. Cod liver oil acts like butter in promoting growth; olive oil does not.

It is only recently that certain other potent factors in foods have come to light. It isn't enough now to know only the caloric value of various foods with their percentage of protein, carbohydrates or fats. One must have a clear knowledge of other phases of food behaviour which can be explained only on the basis of some vital chemical factor. We know of the various specific functions of amino acids which cannot be replaced by other amino acids or other chemical substances. In addition foods contain other substances not proteids which are essential to life. Funk calls them VITAMINES, a word which may be used for lack of a better term. An example in beri-beri may be cited. If fowls are fed exclusively on polished rice, the reddish exterior having been ground away no change occurs for several weeks. Suddenly, however, symptoms appear. The fowls are unable to walk, they become weaker, lie on their sides and die if the diet is not changed. If the fowls are fed on polished rice to which the bran or reddish exterior is added or upon unpolished rice, they do not show these symptoms. Recovery is brought about in very sick fowls by the injection of an extract of rice bran. There is and must be something in the rice bran which is required for normal body nourishment. The particular substance need be given in but very small amounts as a few mgs. of the bran extract is sufficient to bring about the recovery of a very sick fowl. The particular affection is a peripheral polyneuritis.

Only very recently the Public Health Service has announced the causative factor of pellagra in the lack of certain elements to a complete diet noted in individuals subsisting almost wholly upon corn.

A careful study of the experimental work herein cited should stimulate clinical observers to close observations on all cases in which feeding is or becomes a factor. In the feeding of children many of these experiments must prove most suggestive.

IRVING S. CUTTER.

REFERENCES.

Funk: Is polished rice plus vitamine a complete food?—Jour. Physiol. 48, p. 228.

Osborn and Mendel: The relation of growth to the chemical constituents of the diet.—Jour. Biol. Chem. 15, p. 311; 16, p. 423; 17, p. 401.

Hopkins: Feeding experiments illustrating the importance of accessory factors in normal dietaries.—Jour. Physiol. 44, p. 425.

Osborn, Mendel and Ferry: Maintenance experiments with isolated proteins.—Jour. Biol. Chem. 13, p. 233. Feeding experiments with fat free food mixtures.—Jour. Biol. Chem. 12, p. 81. Feeding experiments with isolated food substances.—Carnegie Instit. No. 156.

Mendel, Folin, Lusk: Symposium on Nutrition.—Jour. Am. Med. Assn. LXIII, p. 819.

LIBRARY NEWS.

Seventy volumes of the recent magazine literature have just been returned and seventy-five more completing the 1915 year have just been sent to the bindery. The following magazines have been added to our list for 1916:

Biochemical Journal,
Boston Medical and Surgical Journal,
Journal of Cancer Research,
Journal of Immunology,
Pediatrics,
Archives of Pediatrics,
British Journal of Diseases of Children,
Deutsche Medicinische Wochenschrift,
Journal of Laboratory and Clinical Medicine.

This makes a list of about one hundred fifteen current magazines.

FACTS AND THEORIES

"The man who learns, who is capable of learning, holds his theory-engendering and theory-harboring faculty always in abeyance; he keeps it in a state of relaxation and openness. He permits the ever-flowing stream of facts to percolate through it and wash out any theory that cannot withstand the current. Upon the ability to do this hangs the proposition that experience teaches and helps. Pity the man who does not allow experience to change his mind."—Medical Sociology, Warbasse.

THE PULSE

PUBLISHED MONTHLY
UNIVERSITY OF NEBRASKA COLLEGE OF MEDICINE
42nd and Dewey Ave., OMAHA, NEBRASKA

SUBSCRIPTION PRICE. - - - ONE DOLLAR PER ANNUM

STAFF:

G. L. WEIGAND, Editor-in-Chief — J. CALVIN DAVIS, JR., Business Manager

CLASS EDITORS

P. J. Flory, '16 — L. Riggert, '17
K. S. Davis, '18 — M. J. Nolan, '19

C. F. HOLLENBACK, Circulation Manager — H. UPDEGRAFF, Cartoonist

Entered as second class matter at Omaha, Neb.

ADDRESS ALL CHECKS TO THE BUSINESS MANAGER

EDITORIAL

UNIVERSITY HOSPITAL.

The contract for the University Hospital to be erected on the campus of the College of Medicine has been let to F. P. Gould & Son of Omaha. The contract price, including electric wiring, plumbing, heating, ventilating, etc., is about $135,000.00. The building stakes have been set by the engineers of the University, and Gould & Son promise that work will begin immediately. It is confidently anticipated that the excavation and foundation will be placed during the winter in order that the work on the superstructure may begin actively in the spring. Gould & Son state that orders for all material have been placed with delivery promised within sixty days. All friends of the University are anxiously looking forward to the completion of the University Hospital. Competent critics who have looked over the plans are of a unit in their opinion that the building will furnish almost ideal clinical advantages.

A write-up of the University Hospital with floor plans, etc., will appear shortly in the "Modern Hospital," edited by Dr. John A. Hornsby, of Chicago.

At the next meeting of the Pre-medical Society at Lincoln, Dr. Barker will talk on "Medical Possibilities," and Dr. Jonas will speak on the medical work of a great railroad corporation.

Dr. J. P. Sedgwick, Professor of Pediatrics, University of Minnesota, will address the students of the College of Medicine on "Infant Feeding," February 4, 1916.

Dr. Gorgas of "Panama Canal Fame," will be in the city February 10th. He has promised to speak to the students of the College of Medicine on that day.

The Medical Club met at the College building at 7:30 p. m., Tuesday, January 18th.

The Quiz Course given by Dr. George Pratt is proving of so much value that Dr. Waters has taken over the Quiz Course in Surgery.

---

30 YEARS AGO IN OMAHA.

(December 31, 1915, The Omaha Daily News.)

The Omaha Medical college, through its dean, J. C. Denise, and its secretary, Ewing Brown, made application for the body of Charles Kloth, a German, 6 feet 6 inches, who died a pauper in the county hospital, the body to be used for dissecting purposes. This was in conformity with law, and a $500 bond as guarantee of good faith was filed. The bones were to be reassembled and to be known as the Douglas county skeleton.

At a reception given at the Millard hotel by the proprietors among the 150 guests there were present: Mr. and Mrs. Page, Captain and Mrs. McCauley, Mr. and Mrs. F. J. Barton, Mr. and Mrs. F. W. McConnell, Dr. W. O. Bridges, Miss Jessie Millard, Miss Carrie Ijams, Miss Lake, Miss Isaacs, Mr. and Mrs. Henry Estabrook, Mr. and Mrs. Ed Cornish, Mr. and Mrs. Ben Wood, Mr. and Mrs. Herman Kountze, Mr. and Mrs. Guy C. Barton, Mr. and Mrs. J. H. Millard.

Prof. showing visitor through lab. building.

Bell rings—students stop work and disappear as if by magic.

"Do all of them," said the visitor, smilingly, "drop their work the instant the bell rings?"

"Oh, no, not all of them," said the Prof! Some of them are more orderly and have their apparatus put away before that time."

ANATOMY ON THE SPORT PAGES.

Times certainly have changed. A recent item in a Joplin, Mo., paper states that three players in a game of football had suffered fractures of fibulas, and it further states that in days gone by it would merely have been mentioned as "broken collar-bones."

Jo. A. M. A.

THE OLD POSTERIOR OPERATION

"I see they have operated on a Philadelphia boy's head to make a better boy of him."

"That isn't where my dad used to operate on me to make a better boy of me."—Houston Post.

THE ANNUAL MEETING OF THE FEDERATION OF THE AMERICAN SOCIETIES FOR EXPERIMETAL BIOLOGY IN BOSTON.

A brief explanation of the nature of the Federation may not be amiss. It is composed of the Societies of Physiology, Biochemistry, Pharmacology and Experimental Therapeutics and for Experimental Pathology (not the American Association of Pathologists and Bacteriologists, which is a separate organization). The membership of the societies consists of those—in the United States and Canada—who are working along the lines implied in the above titles. As these biological sciences are more or less closely related, membership in two or more of the societies is not uncommon. The meetings are held annually during the holiday week, in one of the larger medical centers.

If one were to read the constitutions of the different societies one would probably learn that their purpose is to further the advance of the respective sciences, etc. (Never having read the constitution the writer is unable to state the objects given). Presumably the reason that most of us attend the meetings each year is to learn what the members are doing in their own lines of work and to renew the friendships formed at the meetings or elsewhere and, as a kindly old gentleman was accustomed to say in his lecture on Caffein, it "stimulates the flow of thought and idea"—just the reasons for the gatherings of other groups of men. It is quite likely that each member derives somewhat different advantages and pleasures from his attendance and associations at the meetings. It is of distinct profit to learn what is presented so that one can tell what papers to read when they are published in full.

This year (1915) the societies gathered in the marble halls of the Harvard Medical School. The program usually lasts from three to four days. There are two joint meetings; the first session usually includes the papers that are of interest to all the members regardless of their society affiliation and one afternoon is given over to demonstrations of new apparatus and the like. Following this the individual societies have their own programs at which the members present in brief the interesting features of their work of the past year. It must be understood that new work only is presented, except insofar as it is necessary to introduce previous work as an introduction to the paper; there are no papers offering all that can be collected from the literature on a given subject. The scope of the meetings can best be grasped by stating that the Biochemists' program consisted of over sixty papers, the Physiologists' of about fifty, the Pharmacologists' of over thirty and the Experimental Pathologists'—the youngest of the societies—of twenty. Needless to state, there are moments of satiation to the average member which are considerably relieved by the common gathering for luncheon and dinner in the evening.

Several papers and demonstrations were of especial interest. Prof. Henderson (Yale) demonstrated a mine rescue breathing apparatus which is carried on the back of the rescuer. The distinguishing feature of this apparatus is the automatic oxygen supply; by means of valves the oxygen is supplied to the bearer in just the quantities needed. The great trouble with earlier models is that the oxygen was supplied at

a uniform rate regardless of the needs of the rescuer; this grave fault seems to be entirely done away with in the recent model which has given complete satisfaction in trials of over two hours' duration. This apparatus will undoubtedly prove of great value, not only in the mine rescue work, but in other and similar conditions of insufficient oxygen supply—fires, gas poisoning and the like. (Possibly it is too bulky for trench use).

Rosenow gave a demonstration of his work on Elective Localization of Streptococci. He finds that streptococci isolated from definite infected areas or organs have a peculiar affinity for the same area or organ when injected by vein into animals: thus streptococci isolated from the infected appendix, gall-bladder or stomach when injected by vein into rabbits will produce focal lesions in the corresponding organ of the animal in far greater percentage than in other organs; strains from cases of parotitis will produce inflammation of the parotid gland of the rabbit and strains from rheumatic fever will produce arthritis and endocarditis—when injected by vein, not directly into the organ. According to Rosenow each strain seems to require definite quantities of oxygen which is supplied by certain cultural methods. It will be interesting to learn if this work can be confirmed by other investigators.

Meyer and Meltzer demonstrated the connection between the lungs and the bones of the fowl by insufflating the lungs through the humerus. A cock was anesthetized with ether and a cannula inserted into the humerus; the cannula was connected with a compressed air chamber. When the air valve was opened the chest of the fowl at once became distended and the bird ceased to breathe, the thorax remaining in the inspiratory position as long as the compressed air was introduced into the humerus. This demonstration illustrates the fact that anatomical relations can often be illustrated by physiological methods and vice versa. J. D. P.

Pat and Mike, working on a sky-scrapper, fell and Pat in some manner grasped the end of a board as he fell, Mike caught hold of Pat's foot. They dangled in space.

Pat: "Mike, ye dirty Irishman, let go me foot, or I'll hit ye wit de board."

The doctor told her what she needed was a good hearty meal at night and then to stop thinking about her stomach.

"But, doctor, only two months ago you told me to avoid dinner at night, and to take a light supper instead."

"Oh, did I?" replied her medical adviser, reflectively. "Well, that shows what wonderful strides medical science is making."—Boston Transcript.

Doctor—You'll have to cut out some of this wine, woman and song business; it's killing you.

Patient—All right, Doc; I'll never sing again.

ALUMNI U. of N. NOTES

Dr. Andrew Harvey, '13, has moved from Craig to Fremont, Neb.

Dr. F. W. Karnes, '04, of Benedict, Neb., is president of the York County Medical Society.

The Alumni of our school were well represented at the Elkhorn Valley Medical Society held January 12th at Fremont. Dr. H. G. Morris, '05, is vice-president; A. P. Overgaard, '00, is secretary, and E. L. Bush, '06, treasurer. Drs. Harvey, '13, Lemere, '98, Murdoch, '98, and Bartlett, '03, appear on the various committees. Drs. Patton, '04, Stokes, '99, Cutter, '10, and Rathburn, '02, read papers before the society.

Dr. W. P. Wherry, '03, presents an interesting article on "Diphtheria Carriers" in the January Western Medical Review.

Dr. Joseph A. Kahout, '04, who was until recently located at Cuba, Kansas, died of tuberculosis in Omaha the latter part of November.

Dr. Harry Baughness, '99, was married November 20, 1915, to Miss Ethel Strasser of Wood River, Neb.

Dr. E. L. Brush, '06 of Norfolk, was elected president of the Elkhorn Valley Medical Society at the meeting held in Fremont, January 12th.

THE CHEMISTERY DEPARTMENT.

The Chemistery department is rapidly shaping itself into readiness for the second semester work, and for further research. During the latter half of the present semester several important changes have been made, and new apparatus added.

In the student laboratory, shelves have been placed at the end of each desk, so that now a student will be saved the trouble of chasing over the entire laboratory in order to find his reagents. A full supply will be kept at each desk. The office has been removed from Room 300 to Room 314, thus making more room for laboratories. The old office is now an instrument room, in which will be kept all the more valuable instruments, and being next to the private laboratory will be much more convenient than before. In here will be kept the spectroscope, the polaroscope, balances, barometer, the calorimeter, which is being installed, and the various other finer instruments.

To the equipment already here Dr. Cutter and Dr. Morse have added a new Kjeldahl outfit, a calorimeter, a Van Slyke amino-acid determining apparatus, and several others of lesser importance. The Kjeldahl outfit is one of the very best made. It is so constructed that it fastens on to the wall instead of occupying a whole table as the

older ones do, and has direct connections with the gas and water. The calorimeter will be a very valuable addition, for with it the heat value of various foods and fuels can be determined, and their relative values calculated. The Van Slyke apparatus will also have its place along with the rest in determining the amino-acid content of the various substances.

This along with other apparatus which will be added from time to time will soon put the Chemistery department on an equal working basis with that of any other institution of this kind.

NU SIGMA PHI.

The members of the Delta chapter of the Nu Sigma Phi sorority of the University of Nebraska Medical School held their annual banquet at the Loyal hotel on Saturday evening. Among those present were Dr. Olga Stastney, Dr. Elizabeth Mason, Mrs. Emelia Brandt, Miss Jane Mathews and Miss Mary Sheldon of Omaha; Miss Barbara Churchill, Miss Emma Dorcas Christensen and Miss Ruth Dore of Lincoln, and Miss Rabnis Sisler of Geneva.

A pleasant evening was enjoyed by all. After the dinner a social time was had in the parlor, after which three pledges were initiated, Mrs. Brandt, Jane Matthews and Mary Sheldon.

PHI RHO SIGMA NOTES.

We are glad to make room on our walls for a new photograph of Dr. A. C. Stokes, presented recently.

Alumni and active members enjoyed a Christmas tree on the last Thursday evening before Christmas vacation at the house. Gifts presented to those present had attached to them poems. These poems were to be a character sketch of the recipient of the gift and, although the meter was not of the best, there were some very delicate and touching sentiments offered. We believe that hidden talent has been discovered and we also believe that "Bill" Eusden would get a good "position" writing "poems" for comic valentines. Altogether, the affair was a success, and we hope to repeat it next year.

A word of thanks should be said for the "vigilant committee" who secured the tree, without which the celebration would have been impossible.

Echoes of Christmas.

"A Scot by name of Dow
Was very handy with the cow."

On the strength of the above gem, "Bill" Eusden is letting his hair grow long.

It is planned to have a house dance the 29th of January to celebrate the advent of a new semester as well as the close of an old one. May no one fall by the wayside.

Our Brother Walvoord received a bottle of "Early Risers" for Christmas, but they didn't work.

Another blow to you, patent medicine.

CLASS NOTES

SENIOR CLASS NOTES.

"Dr. Leonard—Describe the stratum lucidum."
"That's too deep for me."

Dr. Kennedy (at the county hospital)—"I forgot my roll this morning, but I guess everybody is here. I don't see anybody who isn't here."

According to Dr. Aikin hysteria is the mocking bird of all diseases and syphilis is the nightingale of all diseases.

Dr. J. E. Summers, a few days since, started his surgery clinic with a short discourse on eugenics and courtship. Among other things he said: "Some laboratory men can tell you how to kiss a girl scientifically, but practically they couldn't make good."

Dr. Milroy is responsible for the following story: After Dr. Oliver Wendell Holmes had completed his medical course at Harvard university he took a post graduate course in Paris. Among his instructors was a noted syphiologist. Before completing the course in sypilology Dr. Holmes became disgusted and quite attending clinics with the remark that the professor would prescribe blue mass for the goddess Diana and mixed treatment for the vestal virgins.

Aten has been working overtime for the past few weeks making up a few didactic courses which come next semester. In this way he expects to be able to take his M. D. degree at the mid-year commencement. He has not decided yet whether he will take an internship or seek his fortune in a practice out in the cold, cold world.

The interne situation reached an acute stage during the week following the vacation, when the class was notified that those who expected to apply for hospitals in the city should do so at once. As a result several applications went into the Clarkson and Methodist hospitals. Most of the class, it seems, will seek services in larger institutions in other cities.

During the Christmas vacation Fuller picked up a few extra sheckles and considerable experience by relieving a practitioner at Defiance, Ia.

A new quiz course in surgery will soon be started to correspond to the new one now being conducted in medicine. Dr. Waters will be quiz-master. These quizes were started for the benefit of those who expect to take hospital examinations.

JUNIOR NOTES.

During Xmas vacation Doc. Talcott had his appendix removed and now has completely recovered. He once had heard of a man who had his taken out and later became wealthy. This was Doc's reason. He is now living in constant dread of post-operative adhesions, thrombi, keloids and other complications, so that his happiness is not materially increased.

Aage Brix, our husky Dane, has also been taken down with scarlet fever, and is at the Emergency Hospital. Who ever thought that this soccer player with his constitution would ever get sick? He surely surprised himself also?

Red Martin, while under quarentine, was acting Interne at the Pest House, besides that he was the chief entertainer to the inmates.

Dr. R. R. Losey is about to be released from quarentine and will leave the hospital in a few days. But his condition is such that he will be kept out of school for some time.

Prof.—"What are the complications in Mumps?"
Sandy—"Orchitis?"
Prof.—"What in females?"
Sandy—"I don't know just what they would have." (Court marshalled and put in the guard house.)

Montgomery seems to recite in terms of horse doctors, and these ideas seem to persist. Whenever you hear him he sings about "The bull-frog in the pool." In class, when he is natural and forgets he is supposed to be civilized, he begins to croak. Someone will suddenly look at him and he comes to. When he recovers from Mastitis he'll pass the board of censorship.

Way, in history taking describes a negro as having curly black hair, and a dark complexion.

Dr. Johnson (in Pathology Lab.): "Here is a blood smear to diagnose. The woman is 55 years old, looks rather anemic and wants to drive an automobile. Name the disease, give all of the physical findings, indicate her church preference, whether she is single, married or widowed and outline the treatment.

Minnie used to be a poet;
Couplets formed her favorite rhyme
Marriage caused her to outgrow it—
Triplets take up so much time.—Awg Wan.

SOPHOMORE NOTES.

There is an unconfirmed rumor abroad that the Medical department has become affiliated with the Army and Navy departments of the U. S. government, through experimental work on aeronautics and subsea work. For some time experiments have been conducted with the greatest secrecy in the Physiology Laboratory here and it has

just leaked out as to the nature of these. It seems that the aeronautical branch of the research squad has been working out some new principles of stabilizing mechanisms, pigeons being used as the models for this work. The subsea squad has been working along about the same lines, using frogs as their models. It was the extreme good fortune of a representative of this paper to be present at some of the demonstrations of the squads. At present no tangible results have been arrived at, due to the crossing of a few wires, but there is the greatest indication that positive results will be evident toward the end of the semester. Practically the whole class has been connected with the work.

The editorial department views with the greatest satisfaction the fact that its prediction of a short time ago has come true. When we prophesied a financial panic in Omaha, we were laughed to scorn by some of the best men on the money market. But we laugh last, for such a scarcity of money has not been in this city for a long time. All the causes are not known with absolute certainty, but our brilliant reportorial squad gleaned the following information from the office: The present scarcity of cash is due to the enormous amounts which have been taken from Omaha on deposits for sophomore textbooks for next semester. It will be some time before the crisis is tided over.

All great things wane and fall before the onset of new ones. Just as the Roman fathers watched the barbarians from the North eclipse the Latin predominance; just as Spain bowed before the victorious youth of England, so the sophomore class stands aghast at the enormous fruit cake chewing propensities of the freshman class. Alas, the brightest diadem in our crown is dimmed, and Beede, Weigand and Johnson mourn in heartbroken silence over their trampled reputations. But the "gin rickey capacity" is still with us. Ask Breuer and Cassidy.

It is not the purpose of this department to advertise for any of its clients, but for the newest and most sanitary methods of dishwashing, see the bacteriology class.

A beautiful example of the lasting qualities of friendship is strikingly illustrated in the unwillingness of most of the Neurology class to tear themselves away from their beloved course. Indeed a very great number of them will stay with it for a little longer.

The great Icelandic poet, Hitt M. A. Genn, has stated that all truly lovable events never appear upon this earth but once; they recur at least twice. That is, he continues, two great things are connected by one and the same thing. For example, see the undissolvable link between the delightful courses of Neurology and Physiology. For our denser readers we will explain that the delightful link in this instance is final in Physiology.

Kingery is working on his master's thesis. He has already collected a vast amount of data. Subject: "Why Do New Rons Occur in the Archopallium?"

It has been learned that the internship at the Child Saving Institute is an open position. "Speed" will, in the future, manage, Joe Stecher's bouts. Delzell got over his fright.

Dr. Schultze—"Newbecker, have you used balsam all semester instead of oil-immersion?"

FRESHMAN NOTES.

The Freshmen are all looking forward to that final day of judgment, some time during the last week of January. Who will be the sheep, who will be the goats, and who will enjoy the fruits of their labor?

Deering says: There is no use arguing. I know I am always right.

The short notice guessing bees which Dr. Willard conducts in Histology are the latest form of amusement. Due to some strange form of mental telepathy all the "gang" in the west end guessed appendix. Puris thought it resembled the thyroid gland, Weinberg imagined the trachea.

We wonder what Miss Sheldon thinks of the boys in room No. 3 in Anatomy. Miss Sheldon—Oh, they are so rough fined (refined).

There are two people in Anatomy class who do not laugh at Dr. Poynter's jokes. Who might they be?

We believe that community study leads to swearing and not only that, but some have become personal with their remarks.

How heavy are you going to bleed "dad" for the next registration?

WHAT CONSTITUTES AN INSURANCE RISK?

An insurance policy is a promissory note. A promissory note in order that it may be a legal, binding force, must contain a statement of the amount to be paid, the acknowledgement of value received, the date when the note is given and the rate of interest, provided it is an interest bearing note. An insurance policy contains all these and in addition to these a certain number of conditions and qualifications. By variations in these conditions and qualifications various forms of policies are secured. Now this policy is a contract between the insurance company and the insured and a very important feature of the contract is the appended statement of the insured in reference to his occupation, personal habits, health, present and past, family history, etc. In making a proposition to enter into one of these contracts the company is also governed very largely by the report of its material examiner as to the individual who applies for insurance.

Ill-informed persons have made the assertion that the business

of the life insurance company is purely a gamble; that the company makes a bet as to the length of time its policy holder will live. This is not true. Guided by its own experience and the experience of other companies over a long period of time, principles have been established which are of such wide application and such accuracy that the element of chance is eliminated from its operations. It is, true that if the length of life of the individual be considered the company is quite in the dark. But if a large group of individuals is considered it is a mathematical certainty that a certain number of these will die within a given period, and a certain number of them will live beyond a certain date, according to the characteristics of the group under consideration. One group of individuals will live many years, another group will live but a few years. Now, suppose that a company through some bodies error is continually making the mistake of grouping short lived persons as destined to longer life, it is evident that disaster awaits that company. If it is assumed that a company is in charge of a medical director who is qualified to perform his duty such errors as these can arise only through the fact that insufficient or inaccurate and misleading data, are presented to the medical director upon which he must classify the applicants. The source, chiefly, from which these data are secured is the staff of medical examiners.

Now insurance companies have come to the use of the word "Risk," in a technical sense to signify the person making application for insurance. However, from what has been said it is evident that the real life insurance risk, using the word with its ordinary meaning, is the life insurance examiner. Insurance companies do not feel that there is any difficulty in the proper disposition of applicant provided only that they may have before them complete and truthful data in regard to them. Every right-minded and capable physician who engages in the work of insurance examinations will say that there should be no difficulty in securing satisfactory examination reports. But doctors are human. Many of them are busy, some ignorant, many careless, a few dishonest. Realizing these facts and frequently observing undoubtful evidence of them in the work of local examiners, there is the ever present query in the mind of the responsible officer of the company, as to the trustworthiness of the reports presented. Without a doubt the greater mass of this work is well and faithful performed. The examiner who ausculiates a chest through the coat and vest, who writes down the findings of urinanalyses that were never made or even fill out examination blanks and sign their names to them for persons whom they have never seen and who perform other dishonest deeds, are not numerous. But when it is known that such things occur, honest and able men who are innocent must suffer with the guilty, since medical directors cannot know personally all of their examiners.

From a sociological point of view life insurance has come to be a tremendious factor in the world. From its financial side it is stupendious. Since the success and perpetuity of this great institu-

tion is so largely dependant upon the medical profession it is surely not unworthy of the best service the profession can render. This work has had and will continue to have a wholesome influence upon the advancement of scientific medicine, since insurance companies are always seeking the highest type of physician to be found in the community where this business is done. A recent example of this salutary influence may be mentioned. The demand for a blood-pressure reading in examinations has done more than all else to bring into general use the sphygmomanometer. The finest skill in diagnosis and in prognosis is needed in this work. It differs in no respect from the medical diagnosis under other conditions, barring the fact that mental attitude of the applicant naturally leads him to cover up impairment which a patient is intent upon making known to his physician. Insurance companies are not expecting perfection. They only ask for an honest faithful effort on the part of the examiner to present a true picture of the applicant. Is it not true that the importance and dignity of this work warrants us in doing our part to eliminate the element of risk in life insurance so far as the examiner is concerned.

W. F. MILROY.

The Evils of Prescription Writing.

(Article Continued from Previous Issue.)

By prescriptions, physicians not only lose control of patients but the patients themselves. Loss of control if parting with an asset for which there is no equivalent. The prescription system has a tendency to keep physicians and patients apart. On the other hand, the dispensing system keeps the patients in touch with their physicians, a relation mutually advantageous. Patients must return for medicines. Physicians can thus keep track of their patients and make necessary changes in medicines. Dispensing physicians retain their patients for years, while prescribing physicians must depend largely on new patients for an office income. Prescribing physicians tend to publish the ailments of their patients. Patients assume that their physical weaknesses are held by the physician in sacred and inviolate confidence. Publicity of any kind is particularly trying to those afflicted with venereal, uterine, and many chronic diseases.

The most dangerous evil in the filling of prescriptions is substitution. The drugs prescribed may be expensive; similar, but cheaper drugs may be substituted. The strength of a certain make of tincture is known to the physician and therefore specified by him. Unknown to the physician, the prescription clerk substitutes another make of tincture, which may have different effects. Efforts to detect substitution invariably show it is practised on a large scale. Errors in translating the written directions of physicians constitute also a dangerous element.

Naturally many patients lack confidence in prescriptions filled by druggists. "The first element of success is a satisfied patient." Few prescribing physicians have not suffered enormous loss by the refilling of prescriptions. Prescriptions are often refilled hundreds and even thousands of times. A physician in Iowa once said, that some twenty

years ago, he wrote a prescription for ague that soon became so popular, that it had been refilled by the original druggist over 10,000 times, and he added, "I only got FIFTY CENTS for it." The dispensing system renders migration and the gratuitous circulation of prescriptions impossible.

And I want to say right here, that every time a physician writes a prescription, he parts with a valuable secret and that to his most dangerous competitor, the druggist. An efficient prescription is a tangible asset. If delivered to a patient, it becomes an asset for some druggist. If dispensed by the physician, it remains an asset for him. Druggists naturally are interested in securing prescription assets.

I have never been able to ascertain from the thousands of physicians whom I have interviewed, by what right, legally, morally, or otherwise, the druggist becomes the absolute and permanent possessor and owner of the physician's prescription after filling it, except that he needs the money, and custom, and the doctors have allowed it from the time of the first apothecary shop. These prescriptions should be immediately returned to the physician the same as a paid and cancelled check through the bank.

The claim that the average prescription clerk is more competent to serve medicine to the public through the written instructions of physicians than are the physicians who write the instructions is too ridiculous for serious consideration. If physicians are competent to prescribe, they are equally competent to dispense.

Prescribing physicians do not become familiar with the color, odor, taste and other physical characteristics of the medicines they employ; hence they do more or less groping.

Absolute confidence in any employed medicine is essential to a successful practice. Dependence on medicines from the average drug store is a weak crutch with which to sustain a patient. The medicine prescribed has not had the expected result, and, naturally he asks himself: "Was my diagnosis correct?" "Was the proper remedy selected?" "Was the dosage sufficient or was error made in filling the prescription?" Most physicians who have written prescriptions in such cases have had this experience.

Fifty-seven specimens of tincture of aconite obtained from as many retail druggists and examined by the Kansas Board of Health, showed that only one was above 50, twenty-six varied from 10 to 34, and the balance were below 10 per cent in activity.

Much money is wasted for unconsumed medicines purchased on prescriptions. With many patients, drug bills are so excessive that with limited incomes there is no money left with which to pay their physicians.

Again, there are many patients who object to paying an office fee and receiving in return a piece of paper containing only a statement of a remedy for their disease and directions for its use. They demand something more tangible. To them it seems too much like giving up something for nothing.

Advantages of Dispensing by the Physician.

The statement has been made that dispensing is unprofessional

because it savors of commercialism. An English practician would not concur in this statement, for most English physicians either dispense direct or have their own pharmacies, as in days of old.

Money collected for medicine is no more commercialism than the collecting of pew rent by a church organization. If saving money for patients is commercialism, I plead guilty, otherwise not.

Dispensing physicians are reaping the benefits and enjoying the larger incomes that fall to physicians who supply their patients with efficient medicines. The right of physicians to dispense is fundamental—like the right to diagnose. To deny that right is to impair the quality of the work of physicians, and to endanger if not sacrifice human life. Dispensing physicians deliver to patients not only medicines, but also accurate instructions.

Advanced pharmacy has lessened the work of compounding until only a limited amount is necessary. Not only this, but it is now possible for physicians to keep on hand a supply of tablets, tinctures, elixirs, fluid-extracts, syrups, ointments, capsules, etc. A small assortment of chemicals and other preparations added to these will enable physicians to accurately dispense in their own offices all or practically all of the medicines they require.

The dispensing system enables physicians to build up office practices, which, like the prescription files in drug stores, can be transferred to successors. And I have never heard of a drug store changing hands in which the prescription files were not inventoried as one of its principal assets,—for the refilling value.

Dispensing by the physician secures for him the maximum degree of efficiency. Suggestion accompanied by a potent medicine is a powerful factor in morbid states.

It is generally recognized that the medical profession has freed humanity from many of its ills, decreased physical suffering and lengthened the span of life. These achievements have resulted in a confidence and respect not attained by any other calling.

Millions of people are self-prescribing daily, often for powerful and dangerous drugs, and in so doing are acting on information first given out by physicians through the prescription system.

If the medical profession will retain for themselves their knowledge of the therapeutic action of medicines, information that cost them years of study and much money, knowledge that in the possession of the laity is dangerous, then an invalid world will be less invalid, and physicians will find their practices more lucrative. A large percentage of the medicines, self or drug-store prescribed, are nonindicated. Following its administration, human life is being tampered with and vast sums of money are being foolishly, yes, dangerously squandered. A part of this money paid to dispensing physicians would insure for our people better health, longer life and larger incomes with which to enjoy it. Physicians who dispense the medicines they prescribe obtain more certain action, keep to themselves the nature of their remedies, and the ailments of the patients, enjoy larger incomes and retain from patients their patronage, their respect and their confidence.

DR. W. J. MAPLE.