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THE WISCONSIN ALUMNI MAGAZINE.

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ALBERT R. BARTON, '96.

WARREN M. PERSONS, '99.

LOUIS W. BRIDGMAN, '06.

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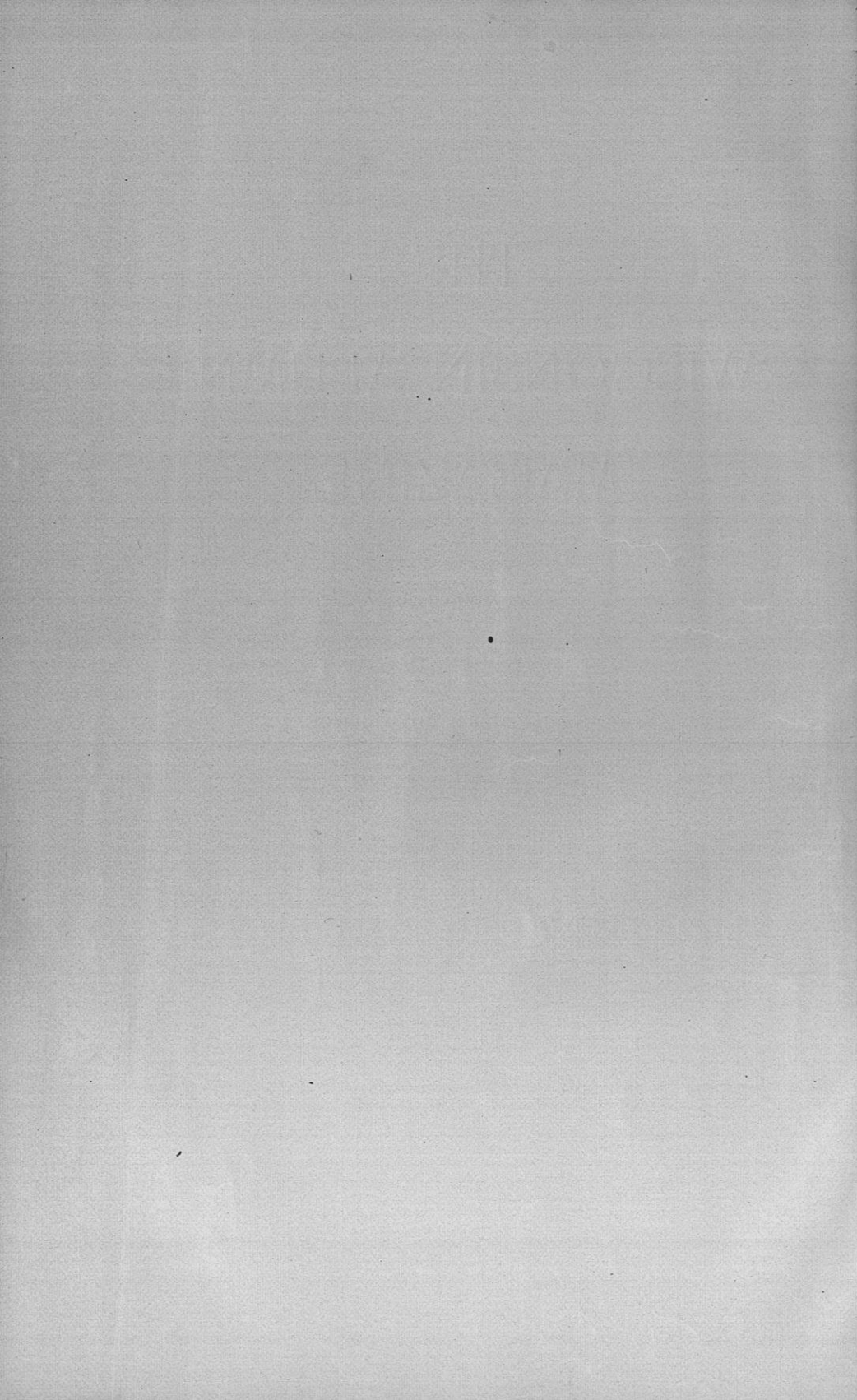
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CLARK MIL.

THE GEORGIA VISITORS AT AGRICULTURAL HALL.

THE WISCONSIN ALUMNI MAGAZINE

Vol. VI.

December, 1904.

No. 3.

The Month Current

Georgia Honors Wisconsin.

Quite the most important event since the last appearance of the Magazine was the visit of the Georgian party to Madison, November 22 and 23, described on a later page of this issue. It was a signal honor for the University of Wisconsin and an evidence of the leading position which it holds among the state universities of the country. The University of Georgia is the oldest of these state institutions and there is at present a vigorous and growing sentiment in the state in favor of strengthening it in every possible way. With this end in view, the visit was planned as an object lesson to the trustees and influential legislators of the Southern commonwealth. After the most careful consideration, Wisconsin was selected as having the typical state-supported university of the North. The original plan had been to come to Madison during the Jubilee last June but this proved to be impossible at the time. On the whole, it is much better that the visit was made this Fall, because what the Georgians desired to see was the University in the usual course of

its every-day working life rather than in festival array. When the distinguished Southerners did come to Madison what they saw was the University of Wisconsin at work, which means Wisconsin at its best. Except for the special convocation, there was no change of the regular program and this must have been gratifying to the men who came more than 1,000 miles to study actual conditions and methods at the University. How completely satisfactory to them this visit was is evidenced by their own expressions regarding it and how generally the significance of the event has been recognized is shown by the articles regarding it which are quoted from leading publications of national circulation.

Important Advance Step in the College of Engineering.

At the meeting of the regents December 13, in accordance with the recommendations of the faculty, five and six year courses were adopted in engineering, which provide for the addition to the technical engineering work of a large number of elective studies in other colleges. The purpose of

such courses is to broaden the training for engineers, and thus make them better all-round men, as well as better professional men. It is proposed to publish in the catalogue five and six-year courses in civil engineering, mechanical engineering, and electrical engineering, which in four years will lead to the degree of Bachelor of Science in General Engineering; in five years will lead to the degree of Bachelor of Science in the special engineering courses, and which in six years will lead to the professional degrees of Civil Engineer, Mechanical Engineer, and Electrical Engineer. Under this broad arrangement for election of work in the other colleges by engineering students, various type courses will be built up, one of which will be a combination of engineering studies and studies in the course in commerce.

At Wisconsin there is a very exceptional opportunity to develop technical training of a higher grade than that anywhere now obtainable, since there are in the University four strongly developed colleges, i. e., the College of Letters and Science, the College of Agriculture, the College of Engineering, and the College of Law. No such combination exists in any privately endowed university in the United States, and only one or two state universities have all of the colleges strongly developed at one place, thus placing them in a position to move for higher grade technical training. Many combinations could be made of work in the various colleges which would result in such higher training, but the particular combination mentioned, that of engineering and commerce, illustrates the advantage of the combination courses. An excel-

lent combination course of this kind is possible, by reason of Wisconsin's strong engineering and commercial courses. At the present time engineers are demanded for the higher grade positions who not only know engineering but also know business. A railroad president recently said: "We can get an indefinite number of one thousand dollar men, comparatively few three thousand and five thousand dollar men, and no fifteen thousand dollar men," i. e., men who are capable of handling business affairs in a large way, and who have the technical training of engineers. It is believed that the six year engineering and commerce course now offered by Wisconsin will give the technical training needed for these higher positions. In a similar manner courses are proposed which will combine work in engineering and law studies, and combine work in engineering and agricultural studies. Already there is demand for men trained in engineering and these lines.

If the five and six year combination courses are a success, Wisconsin will be in advance of all the universities of the country in providing for technical education of the highest grade.

Enlargement of Pre-Medical Course.

Three years ago, Dr. John M. Dodson, '80, dean of Rush Medical College, discussed, in the Alumni Magazine, the possibility of strengthening the course at the University of Wisconsin antecedent to medicine and recommended certain changes and additions. Dr. Dodson clearly pointed out the inadvisability of attempting, at Wisconsin, the establishment of a

complete medical course and suggested as an alternative and better plan, certain changes by which graduates of the existing course preparatory to medicine, could secure two years' credit in the leading medical colleges. Wisconsin was almost the first university in the country to establish a special pre-medical course and its graduates have always ranked high in the best medical schools in America. At Johns Hopkins it has frequently been stated that of all the men who entered the medical school of that university graduates of the pre-medical course of the University of Wisconsin were the best prepared. For some time most medical colleges have granted these Wisconsin men a year's credit.

Dr. Dodson in his article in June, 1901, pointed out that only a comparatively small number of changes was needed to make the course fully meet the requirements for a year's credit at any first class medical college and that it would then be a relatively easy matter to add the few studies necessary to full credit for the second year of the course.

In order to give the full equivalent of the first year's medical college work, the addition of the study of human anatomy with dissection, and the enlargement of the course in physiology to include more laboratory work, were necessary.

It was exactly along these lines that at the opening of the present year the study of human anatomy was added to the curriculum and all the related work in anatomy united and made a distinct department, with Dr. Charles R. Bardeen, formerly of Johns Hopkins, as its head. Within a short

time the physiology work will be similarly united in a new department of physiology, and eventually the additional studies required in the second year of the medical course will be added.

In another part of this issue is a somewhat complete account of this new department of anatomy which should be of interest to alumni. That the University is working along the correct lines in this matter of medical education there can be no question. From time to time the desirability of a complete medical course for the University of Wisconsin is agitated but no greater mistake could be made than to attempt such a thing. Aside from the enormous and increasing expense of maintaining a medical school worthy of Wisconsin, the lack of anything like a sufficient amount of clinical material and the absence, in a city so small as Madison, of any great number of eminent practitioners such as are available for occasional instruction, or for a portion of their time, in great centers of population, form an effective obstacle to the success of a medical school in direct connection with the University. The other proposition most frequently urged, of a department in Milwaukee, would be a blow at the very foundation of Wisconsin's strength—that of having all its departments together on a single foundation, where each helps the others and where effort and resources gain added value by being concentrated. There is little likelihood of the agitation for a complete medical course gaining strength in the near future, but alumni who are interested in the progress of the University toward something desirable and at-

tainable in medical education will be interested in the article mentioned, which was prepared under the direction of Dr. Bardeen, head of the new department.

A Plea for American Archaeology.

Mr. Chas. F. Lummis addressed a good sized audience at Assembly Hall, Friday afternoon, Dec. 9, on "Primitive Music of the Southwest, illustrated by phonographic reproductions of old Spanish and Indian songs." Mr. Lummis is a graduate of Harvard University who has spent the last twenty years of his life in the Southwest. He is perhaps most widely known as editor of the magazine, "Out West." He is Secretary of the Southwest Society of the Archaeological Institute of America and has been engaged by the general society to lecture before the various branches of the Institute. The lecture here was under the auspices of the Wisconsin Society of which Prof. M. S. Slaughter is secretary.

A portion of Mr. Lummis' remarks had to do with the chief project of the Southwest society, the founding of a museum for the collection and preservation of Southwest antiquities. In a very spirited manner he called attention to the rapidity and ruthlessness with which the ancient and native characteristics of the primitive Indian and early Spanish civilization are being effaced; and he made a strong plea for the preservation of what records are left of them as something not inferior in archaeological and scientific importance to the treasures of old-world museums. The defacement of the cliff-dwellings by "two-legged porkers;" the neglect of fine old paintings, some of which have recently been

rescued by the Southwest Society, among them a genuine Murillo, now hanging temporarily on the walls of the Chamber of Commerce in Los Angeles; the barbarous destruction of the noble wild game of the prairies and the mountains, whose skins and antlers have gone to embellish the establishments of individuals, who "couldn't hit a flock of barns, flying low;" in general the encroachment of a greedy, vulgar, machine-made civilization upon the confines of the primitive, and its insidious corruption of the wild, sweet culture of a romantic land, were scored by this unwaist-coated scholar in terms as unconventional as was his costume of corduroys, cartridge belt and blue shirt, but as full of tang and tingle as the untrammelled breeze and generous sunshine by which his face has been tanned.

The preservation of Indian and Spanish melodies by means of the phonographic record is regarded by Mr. Lummis as a part of the general labor of love and science in which the Institute is engaged. He has "caught alive" over 500 of these songs, representing all the various types of lyric expression as they have existed among divers Indian tribes and among the Spanish pioneers. War songs, work songs, children's play songs, love songs of every type, all are liberally and faithfully represented.

In his eulogy of this primitive music the speaker particularly contrasted its spontaneity and original freshness with the forced sentimentality, affectation, and mercenary virtuosity of much of our current music. The melodies, he said, are "unclothed," that is, they are without the embellishments of harmony, because these people sing only

in unison; but they are strong and expressive. These children of nature sang "because they had to sing or bust," whereas the modern artist mostly sings because he is already "busted."

There can be no doubt that these records are capable of being of great utility to the students of primitive culture, particularly to those who approach that science from the side of the arts of speech and song. It is to be hoped that in this, as well as in its other lines of effort, the Southwest Society may bravely prosper. The address of Mr. Lummis was more than ordinarily refreshing. Though far from moderate in his violations of the dead-alive conventionalities of the academic platform, he gave ample evidences of a cultivated mind, and the frankness and breezy vigor with which he presented his ideas were inspiring.

Conference Important to Athletics.

Alumni who hold the opinion that athletics are accorded a disproportionately large place in University life may find occasion for criticism in the amount of space accorded that subject this month. However, the joint athletic conference of faculty, alumni and students which is about to convene, constitutes the most important current event relating to the welfare of the institution and the Magazine has no apologies to offer for treating it at length. Apart from the purely academic work of the University, athletics form today, for the average student, the strongest and keenest interest of his college life. This may not be as it should be, and there is no question but what we are in a period of ultra-

athleticism, if the expression be permitted. In a measure this is natural, for athletics form practically the single element of community life in a state university like our own. The hold which they have on the interest of the student body cannot be ignored, and as there are few men so radical as to wish for their abolition, anything calculated to minimize undesirable features of the system, should be cordially welcomed both by the friends and the opponents of college sport. Wisconsin has experienced the vicissitudes of fortune in athletics, not merely in the matter of laurels won, but in the varying success with which the difficult problems of athletic control have been solved. On the whole, it may safely be predicated that the University has been in the front rank of the institutions of its class in both respects. This has been due, above all things, to the *esprit de corps* of its undergraduates and alumni. "The Wisconsin spirit" has become proverbial wherever the name of the University is known, and is a phrase which is always used with admiration and respect by the men who speak from the standpoint of wholesome college rivalry. But there have been certain points at which our athletic government has lacked something in efficiency, and certain undesirable features which were generally recognized but for the mending of which the time never seemed quite auspicious until the present year. As a result of the disastrous football season just closed these things have been made to appeal clearly to all who were interested and the result has been the development of the conference plans, outlined in a later article in this issue. That good will come from this

meeting of students, alumni and faculty, there cannot be the slightest doubt. Even if the conference fails to recommend sweeping changes, which are indeed unnecessary and would be undesirable, even if it *seems* to accomplish little, the mere fact of a representative body of students meeting in a conference with interested alumni and members of the faculty in a frank, open discussion of the athletic situation will be of unmeasurable benefit. The possibility of such a meeting is due entirely to the superior quality of Wisconsin college spirit. We believe no other university of the West has reached the stage where such a meeting would be possible. This conference will effectually allay that suspicion which in the past has occasionally been in evidence on the part of the student body when alumni have made suggestions regarding athletics. This suspicion has, it must be admitted, been sedulously cultivated by persons who seemed to have an interest in raising a barrier between the undergraduates and alumni of Wisconsin. As marking the end of such a state of affairs and as a precedent for the settlement of future athletic problems, which, in the nature of things, must arise from time to time, the joint conference December 14th is likely to mark an epoch in University of Wisconsin athletics.

International Club Reorganized.

A striking instance of the increasingly cosmopolitan character of the student body of the University is furnished in the International Club, which was formed in 1903 and has

been recently reorganized for the current year. While it is true that the attendance at Wisconsin is still drawn largely from within the borders of the state, the foreign students in attendance are steadily increasing in numbers, and they now number 25, all of whom are members of the International Club. These 25 men represent the thirteen different countries, including Japan, Argentine Republic, Jamaica, Germany, France, Norway, Mexico, Austria, Hawaii, Porto Rico and the Philippine Islands. While the primary object of the club is a social one, the bringing together of the foreign students and making them acquainted with one another and with the American students, regular programs are rendered at these meetings, including frequently papers of more than usual interest, on the life and conditions in the different countries represented, and illustrations of national customs, such as the Japanese sword dance which was recently given by two of the students from Japan. The club was organized last year by Hovhan Hagopian, an Armenian student, who was then pursuing graduate work in the University, and it is the only one of its kind in the country. Mr. Hagopian is this year engaged in graduate study at Harvard and is planning the organization of a similar club there.

University Press Bureau.

A news bureau has been established at the university this fall the purpose of which is to supply the state and local newspapers with such news concerning the university as is of interest to the general public. Press bul-

letins will be issued as occasion demands, containing complete and accurate reports of matters relating to the university and the work of the several departments and colleges. The purpose in issuing these bulletins is not to advertise the university, but to furnish the alumni and others interested, in fact, the citizens of the state generally, with information concerning the real work of the institution. In the past, not infrequently the only news that has been given general currency has been the accounts of athletic and social events and student escapades. This has been due largely to the fact that such news was easily obtained by student reporters and correspondents and in the absence of other news regarding the university, has been generally acceptable to the newspapers to which it was sent. The reports of the real work of the University have occasionally found place in some of the Sunday editions of the more important daily papers as special articles, but as they were often written by those not familiar with the details of the subject in hand, they were not always accurate and hence were not entirely satisfactory. Reports of faculty and regents' meetings have also often appeared in incomplete and inaccurate forms, with the result that the action of these bodies was misunderstood by the public. By furnishing the local and state press directly or through local correspondents with full and accurate reports of matters of general interest, the press bureau will undertake to overcome these difficulties and thus insure the publication of accurate information regarding the institution.

Complaints Regarding Payment of Subscriptions.

Complaints to the number of three or four a day from subscribers who have paid their 1904-5 dues and have not been given credit make necessary an explanation.

At the beginning of the college year, Mr. John C. Miller, the business manager of the Magazine for the last two years, turned over to the General Secretary a list of former subscribers to the Magazine. This list, according to his statement, comprised only the names of those alumni who had paid up to and including the year 1903-4. This lead pencil memorandum was absolutely the only data by which the present editor could be governed in making up a mailing list, except for such new subscribers as he had personally secured. Mr. Miller's list indicated that exactly nine persons had paid in advance, i. e., for the current year 1904-5. On this information there was included in the first number of the Magazine a statement to all except the nine named, explaining the needs of the Association and requesting payment in advance this year. Almost at once complaints began to come in from persons who had paid in advance and were not credited. As these letters were received, they were referred to Mr. Miller and most of them have since been satisfactorily adjusted. Many subscribers failed to receive the Magazine except at intervals in the past and became greatly dissatisfied. The only solution appeared to be the appointment of a General Secretary to be paid a salary to give his entire time to the business of the Association. Since August 1st when this plan went

into force, all remittances received have been promptly acknowledged and properly credited. Mistakes will, of course, occasionally occur and when they do alumni who have any cause for complaint are urged to write at once to the Secretary. This is the only way he has of knowing of their difficulties. It is no more than justice, however, to say that most of the troubles with the circulation this year have come as a legacy pure and simple.

While any attempt to pose as the apologist of the former manager is here specifically disavowed, it is no more than fair to explain that a great many alumni have paid their dues each year in the Spring, such payment *covering the year past*, consequently many who paid last June for 1903-4, have at first thought considered that there must be a mistake in the request for another payment so soon. This, of course, is due to the fact that it is the purpose of the Association this year to collect the dues in advance, so far

as possible. The reasons for this are so obvious that it is not thought necessary to say more than this—that a business conduct of the affairs of the Association on any other basis is impossible. Unfortunately for the settlement of these difficulties over the payment of dues, it usually develops that if any receipt was ever given, it has not been preserved. This is but natural. However, such receipts greatly facilitate the adjustment of these difficulties with the former manager. Where alumni are positive that payment has not been credited but have no receipt it is requested that they write the General Secretary as specifically as possible regarding the circumstances of payment and state whether they have in the past paid their dues in advance or at the end of the year. It is the special desire of the General Secretary to hear promptly from all who, having paid for 1904-05, find the pink request for dues in the magazines.

The Official Visit of the University of Georgia Party.

One of the most interesting and significant events in the recent history of the University was the visit of the official party from the state and University of Georgia, the forty-two members of which were the guests of the University on November 22 and 23. The visit was the result of the desire on the part of those connected with the University of Georgia to have its trustees and the members of the legislature inspect a large state university in which all colleges were combined under a single administration. The University of Wisconsin was accordingly selected as the typical northern state university from which the Georgians considered they could learn the most. Mr. George Foster Peabody, a well known New York financier, who is a native of Georgia and has long been interested in educational movements in the south, was the prime mover in the undertaking.

The party consisted of Governor Joseph Meriwether Terrell of the state of Georgia; Chancellor Walter B. Hill of the University of Georgia; Hon. H. D. McDaniel, ex-governor of Georgia and chairman of the board of trustees; Judge S. B. Adams, formerly of the Georgia Supreme Court; Hon. Clark Howell, President of the Georgia Senate and editor-in-chief of the Atlanta Constitution; Hon. P. W. Meldrim, former mayor of Savannah; Hon. P. A. Stovall, editor of the Savannah Press; Hon. J. J. Connor, chairman special committee on agriculture; Judge Hamilton McWhor-

ter; Hon. Henry Persons; Hon. J. T. Newton; Hon. John W. Bennett; Mr. A. L. Hull; Hon. N. E. Harris; Judge Geo. F. Gober; Hon. D. B. Hamilton; Judge E. H. Calloway; Hon. J. Y. Carithers; Mr. W. B. Merritt; Mr. E. R. Hodgson; Harry Hodgson, Jr.; Mr. J. S. Stewart; Dr. H. C. White; Mr. L. G. Myers; Rev. S. H. Bishop, and Mr. George Foster Peabody. Many of the gentlemen were accompanied by their wives.

The party came direct from Atlanta in a special train, and the entire time for two days was taken up in inspecting the various departments of the University. On Tuesday morning at ten o'clock the party were given a drive about the city. At twelve o'clock a special convocation was held at the University gymnasium, which was attended by all students and members of the faculty, and was addressed by Governor Terrell of Georgia, Chancellor Walter B. Hill, Judge S. B. Adams, Hon. Clark Howell, and G. F. Peabody. Tuesday afternoon the visiting party was divided into small groups which visited the College of Letters and Science, the College of Engineering, College of Law, and the historical library. In the evening President and Mrs. Van Hise tendered a reception to the guests, members of the board of regents, and the faculty of the University. On Wednesday the party were taken around the lake shore drive, in the course of which they visited the College of Agriculture and Washburn

observatory. At noon a group photograph of the party was taken on the steps of the agricultural building. Mrs. W. W. Daniells entertained the ladies of the party at luncheon on Wednesday afternoon. The afternoon was given to a detailed study of the University, its several colleges and departments. On Wednesday evening the visitors were entertained at dinner parties given by Mes. R. M. La Follette, Lucius Fairchild, Burr W. Jones, Moses S. Slaughter, J. B. Cassoday, Magnus Swenson, C. R. Van Hise, and Professor Henry. The party left Madison Wednesday evening, and after spending Thanksgiving Day in Chicago, as the guests of Mr. Geo. R. Peck and attending the Chicago-Wisconsin football game, returned directly to Atlanta.

The Georgians were very enthusiastic over their visit and were unstinted in their praise of what they saw. Several members of the party took occasion to publicly express their satisfaction with the trip, which they hope will result in great advantage to their own institution. Chancellor Hill, in an interview shortly after he left Madison, gave this statement of the purpose and result of the trip:

"We have been considering this matter for almost a year, and every northern college of any consequence has been urged upon us. Our choice is not the result of any hurried decision, nor were we influenced in the matter by mere sentiment. We wished to come to the university from which we could get the best suggestions for our own institution. We think Wisconsin is that place. It was the opinion of the board that here we could get a better idea of what an all-

around northern college is than any other place. It is not necessary to tell you that we are not disappointed. Indeed, we are agreeably surprised, for none of us realized the extent to which you have carried your educational work until we saw it with our own eyes. I was especially impressed with your historical library. It is an ideal place to carry on investigation of an historical nature. Your collection of original source data is unsurpassed, I believe, in any library in the country. The agricultural department is developed to a high degree of efficiency and it is in this branch that we are especially interested."

Clark Howell, editor of the Atlanta Constitution, expressed his satisfaction with what he had seen as follows:

"We propose to imitate the University of Wisconsin as far as our means will allow. Measures will be introduced in our next legislature to bring about the end we desire along the lines that Wisconsin has pointed out to us. We came to Wisconsin especially to study the agricultural department of the University. We heard that it was the most perfect institution of its kind in the United States. I believe that it is by far the most practical, useful and best conducted in the world. We were delighted with the efficiency that marked all the other departments of the University. Georgia will certainly profit by our visit to Wisconsin."

Chief Justice S. B. Adams of the Georgia supreme court said, "I wish we had your state historical library down in Georgia. The opportunities afforded by its unmatched original sources of historical documents is marvelous. It is an inspiration to go

through the building. I believe you have an efficiently conducted law school."

Colonel D. B. Hamilton spoke as follows: "The agricultural school is a perfect success. The exhibition of the developed live stock is the most wonderful I ever saw. The dairy and creamery departments are object lessons by which representatives of every state might profit. I admire the practical application of chemistry in agriculture. The experimental work carried on by the faculty and the students is commendable. The wonderful interest and enthusiasm of the agricultural students are remarkable. The management of the observatory so that the students can take advantage of the excellent apparatus and experienced instructors pleased me, as I always took an interest in astronomy."

The visit of the Georgians has attracted national attention, and a number of comments on the visit have appeared in the leading periodicals. The Outlook, in a recent editorial, refers to the visit as "an event of national interest," and considers the University of Wisconsin as "probably unexcelled in the strength of its hold upon the people and in the tangible and material benefits which it has conferred upon the commonwealth." "Wisconsin," it adds, "has seized upon the principle that research is of great strength to aid instruction, and has taken special advantage of the opportunities for fruitful research which the local field has offered, for example, in history, economics, geology, and agriculture." The Independent, of New York, speaks of the visit as

"an interesting and significant incident," and emphasizes the valuable object lesson of the practical returns to the whole state of liberality of appropriations, which the Georgians had, "in a single invention, the Babcock milk test, made by a professor in the Agricultural College, which brings to the farmers of Wisconsin a larger yearly return than the appropriations for the entire state university."

Hon. Pleasant A. Stovall, editor of the Savannah Press, is publishing in that paper a series of interesting articles giving the results of his observations during his recent visit.

Upon their return to the south, the party adopted resolutions in which they pay high tribute to the University of Wisconsin and its efficient management as follows:

"That in the royal reception of our party by the authorities and students of the University of Wisconsin and the citizens of Madison, we recognize the spirit of fraternity which will bind more closely the great states of Georgia and Wisconsin.

"That our inspection of the various departments of the University of Wisconsin has enlarged our views and has inspired us with the earnest desire to see our own University put upon a plane commensurate with the dignity of the state of Georgia.

"That in the upbuilding of the University of Wisconsin we see what the consecrated labor of able men, endorsed by the liberality of their state legislation, can effect in making an institution of research and learning which directly benefits every citizen in the state."

The New Department of Anatomy.

Within the past two decades medical education in this country has advanced with great strides. The length of the course in the better schools has been extended to four years and the requirements of admission have been so much raised that the whole or a part of a college education is now required for entrance into the leading schools. The work of the medical course has been so graded that the first two years are devoted chiefly to the basal sciences of anatomy, physiology, chemistry, pathology, and bacteriology, while the last two years are given up chiefly to clinical work. Although this clinical study may be followed to advantage only where large hospitals offer requisite facilities, the scientific work of the first two years can be best pursued in the liberal atmosphere of a great university.

At the time of the establishment of a graded curriculum in the medical schools, the better colleges offered good practical laboratory courses in general biology. Students who had taken the work were found to succeed in medicine better than those who had not. In many medical schools they were given advanced standing. With the increase of standards of admission to the better schools a certain amount of preliminary training in biology was required. In addition to this required amount of work many universities like Wisconsin offered in their biological departments opportunity for some of the work covered by the first two years of

the medical curriculum. At Harvard in the fifties, at Cornell in the sixties, some opportunity for the dissection of human bodies was offered. In 1890 the University of North Carolina offered the first year of the medical curriculum in its collegiate department, and a few years later the first two years of a four-year course began to be given there. The last two years of the course are given at Raleigh. The University of Kansas offered, in 1894-5, a course covering the first year work of the medical curriculum of a good medical school and the work of the first two years was offered in 1898-'99. Cornell offered, at Ithaca, the first two years of a medical curriculum, in 1899. In its medical department at New York a complete four year course was offered. In 1901 the University of Chicago entered into an agreement with the Rush Medical College whereby the courses in histology, chemistry and physics, requisite for a medical training, were to be given at the University, while clinical branches were to be taught as heretofore at the Medical College. In 1902 Brown University and the University of West Virginia, and in 1903 the Universities of Indiana and Mississippi, offered work covering the first two years of a medical curriculum.

The development of the study of the biological sciences at the University of Wisconsin is indicative of the general progress in this field during the last thirty years in this country.

Prior to 1877 didactic lectures in natural history and, for a time, in physiology and hygiene and in comparative anatomy and entomology had been given. In that year a Science Hall was built at a cost of \$80,000. In this building the various sciences were accommodated and laboratory instruction was offered in zoology and botany. These two departments grew rapidly. In 1882 courses in histology and embryology were begun. In 1884 the overcrowded Science Hall burned and in 1887 the present Science Hall, together with special buildings for chemistry, a heating plant and machine shops, were finished at a total cost of \$345,000. In the new building zoology and botany were given much better quarters and better equipment than of old, a first rate course preparatory to the study of medicine was established and opportunity for advanced work and research was offered.

The rapid growth of the scientific, as well as of the other departments of the University soon caused the new Science Hall to be over-crowded. Some relief was felt when, in 1901, the college of engineering, which up to this time had been housed in Science Hall, was provided with a special building, and in 1902 other quarters were provided for bacteriology. In 1902-3 the spacious attic of Science Hall was remodelled in such a way as to provide quarters for a botanical green house and for an attractive set of laboratories for human anatomy, and in 1904 the department of anatomy was established. The building is much over-crowded, however, and soon provision must be made for housing elsewhere one or more of the six

departments, physics, geology, botany, zoology and psychology, now quartered in it, as well as for the department of physiology soon to be established.

Thirty years ago one man, Prof. J. E. Davies, was the only instructor in chemistry and natural history. Twenty years ago Prof. E. A. Birge was the only instructor in zoology and Prof. Wm. Trelease, the only instructor in botany. Ten years ago there were two instructors in addition to Professor Birge, in the zoological department; Professor Barnes was the only instructor in the botanical department and H. L. Russell had charge of bacteriology. Today the following men are on the staff of the biological departments of the University:

Zoology: Prof. E. A. Birge; Assistant Professor, W. S. Marshall, Mr. Wagner.

Anatomy: Prof. C. R. Bardeen; Assistant Professor, W. S. Miller, Dr. B. M. Allen and Dr. F. Schmitter.

Botany: Professor Harper, Mr. Denniston, Mr. Marquette and Miss Sherman.

Bacteriology: Professor Russell; Assistant Professor Frost and Mr. Barnard.

In addition there are a number of other biologists connected with the schools of agriculture and of pharmacy.

The courses offered in the scientific departments at the University have for several years given opportunity to pursue advantageously work in histology, embryology, neurology, and bacteriology, subjects among the most important of those belonging in a medical curriculum. It is now the

purpose of President Van Hise and the board of regents of the University gradually so to extend the facilities of the University that ultimately all of the basal sciences belonging to the first two years of a medical curriculum may flourish here.

The first step at the University toward the further development of the basal sciences has been the recent establishment of an independent department of anatomy. Dr. C. R. Barden, for some years associate professor of anatomy at the medical department of the John Hopkins University, Baltimore, has been called to take charge of the department, and Professor Miller and Instructors Schmitter and Allen pass over into it from the department of zoology. The department offers courses in comparative vertebrate anatomy, histology, embryology, neurology and human anatomy. All except the last have long been successfully given in the department of zoology. Intimate relations are still maintained with this latter department, where special attention is now devoted to the structure of the lower organisms and with the department of botany where special attention is paid to the structure of plants. In this way a broad view of the problems of anatomy is maintained.

For the prospective student of medicine a consecutive series of courses in anatomy has been arranged. In the first year he may become acquainted with some of the more fundamental features which distinguished living from non-living things, features most easily understood from a study of the simpler plants and animals. In the second year the struc-

ture of several typical vertebrates such as the cat, bird, lizard and fish may be taken up. Thus insight is gained into the general characteristics of the structure of the groups of animals most nearly related to man. In the third year the microscopic structure and the embryological development of these animals may be studied, and in the fourth, human anatomy. The work may be so arranged that this fourth year may coincide with the senior year in college or the first year after graduation. It is believed that few institutions offer superior advantages for a thorough training in anatomy as a scientific basis for practical medicine, and that the work in anatomy done here will be accepted by the leading medical schools as equivalent to that which they give in this subject. The bulletin of the University of Wisconsin for June, 1904, gives an outline of the courses offered as preparatory to practical medicine. In this the relations of the course in anatomy to other courses in the University are pointed out.

The laboratories of the department of anatomy have recently been fitted out on the fourth floor of Science Hall. They consist of a preparation room, a series of dissecting rooms, rooms for demonstration, private laboratories, and a large room for comparative anatomy. On the third floor are the laboratory for microscopic anatomy and the museum.

A considerable number of models and special preparations have been purchased in order to facilitate the study of human anatomy. Thus, for instance, there is a complete collection of the wonderful models constructed under the direction of the great Ger-

man anatomist, His. These models illustrate the development of the human body during the earlier stages of growth. There is in addition a good set of models made by Steger of Leipzig and Tramond and Auzoux of Paris to illustrate various parts of the human structure. Charts are likewise freely used. For illustrating the work in histology, embryology, and comparative anatomy, there are also a large number of models, wall charts, lantern slides and other aids to teaching. For comparative anatomy there is an unusually good collection of the skeletons of various animals including those of some rare forms.

In addition to the courses in anatomy commonly included in a medical curriculum and the preliminary courses requisite for these, the department also offers opportunity for more advanced work and research. At present a considerable amount of investigation is going on. Dr. Schmitter, instructor in anatomy, is finishing up a paper on the structure of the kidney cells. In the course of his investigations he has discovered several interesting facts which throw light on certain conditions found in Bright's disease. Dr. Allen, instructor in comparative anatomy, is engaged in the study of some interesting phases of early embryonic development. Professor Bardeen has just finished a somewhat extensive study of the de-

velopment of the human skeleton and of skeletal variations found in the adult. Professor Miller, who has an international reputation for his discoveries concerning the structure of the lung, is now at work on several interesting topics in comparative anatomy. A considerable number of students are also commencing investigations under the supervision of Professors Bardeen and Miller.

In addition to its indirect value as a center of instruction and research, it is hoped that the anatomical department at the University may become of direct benefit to the members of the medical profession of the state by serving as a center for the collection and preservation of data relating to anatomy. For this purpose the department has already started a museum and has the nucleus of a library. As rapidly as funds allow these will be built up, so that ultimately they may be worthy of the University and the state, and may be turned to by anyone wishing the latest and most accurate knowledge concerning organic structure. With the aid of gifts of books and anatomical specimens from the physicians and surgeons of Wisconsin, the department will be able to gather a valuable collection of material which will be of service not only to the students of the University, but to the members of the medical profession of the whole state.

The Joint Conference on Athletics.

Wisconsin, which has with some slight lapses, consistently stood for all that was cleanest and best in college athletics, has blazed another trail in first recognizing its alumni in the conduct of its sports. By this recognition the University takes a leading place among those institutions of the West which are striving for clean and efficient government of athletics and are beginning their endeavors at home. Efficiency and cleanliness are equally sought and there is every reason to believe that both will be secured as a result of the present movement.

It is difficult to discuss the matter at this time when the conference is just about to begin its session, but for those alumni who for one reason or another have been unable to keep track of these events, it may be in order to sketch briefly the developments referred to. There will be assembled in Madison, December 14th, a joint conference of alumni, student and faculty representatives, which will thoroughly investigate and discuss the present athletic system of the University and recommend such changes therein as may, in its collective judgment, be deemed desirable. The steps which have led up to this conference may be stated quite briefly. About the middle of November the U. W. Club of Chicago, which is the regular Chicago organization of Wisconsin alumni, announced a banquet for the night before Thanksgiving, the Wisconsin-Chicago foot ball game being scheduled to take place

the next day at Marshall Field. Invitations were sent to a large number of prominent alumni outside of Chicago, and to all it was announced that athletics would be the subject of discussion. Certain topics were indicated in the invitations as likely to be taken up.

The dinner was largely attended, and after a full and vigorous discussion, resolutions were adopted recommending (1) a year's residence and credit as a condition of eligibility to all athletics; (2) that the graduate manager of athletics be given a faculty position, with entire charge of the business management of all athletics and no coaching duties; (3) that, in view of Coach Curtis's determination not to coach another year, it was deemed inadvisable, at present, to continue the graduate coaching system; and (4) that the Chicago and other alumni ought to be given membership and representation on the board of athletic directors. It was further voted that a committee of three representatives of the Chicago Club be chosen, to meet with committees of three each to be chosen by the alumni of Milwaukee and Madison, three faculty members and twelve students, to discuss the athletic situation and recommend such changes in the existing system as might be deemed advantageous. Subsequently all these other committees were named as suggested and in the case of the Milwaukee and Madison alumni, the Chicago resolutions were unanimously concurred in.

For more than two years the members of the U. W. Club of Chicago have been carefully studying athletic conditions in the University. They have talked athletics with members of the varsity teams, undergraduates and faculty members, and the information gained from all these sources has been the most frequent topic of conversation at the weekly luncheons and the quarterly dinners of the club during all this time. The Chicago men gradually formed certain ideas as to the athletic needs of the University, and then awaited a favorable opportunity to express their views. They did not wish to appear to force their proposals, and they particularly desired to await the time when other alumni should become like-minded with themselves and when the student body should show a disposition to meet the alumni half-way. These conditions developed this fall and it is not to be denied that the non-success of the 1904 foot ball team was the chief factor in bringing all men to the point where they could discuss the athletic situation without heat or prejudice.

The faults most frequently pointed out are noted below. It is difficult to discuss them at this time for the reason that within a few hours from this writing the joint conference of faculty, alumni and students will begin its session. Before this number of the Magazine is in the hands of the alumni the deliberations of that body will be concluded and its recommendations will be formulated and published. Most of the points here suggested as open to criticism will be taken up by the conference and those which are most apparent will undoubtedly be

corrected. Others are likely to be; some, for one good reason or another, may not be reached: Without having the gift of prophecy, it is safe to say that all the features touched upon in the Chicago resolutions will be seriously considered.

1. The weakness of the present graduate manager system lies chiefly in the manner of the manager's election, the choice resting with student board of directors. If the graduate manager is to hold his position he must go into student politics and use the patronage of his office to build up a following and make himself "solid." He must see that the right men are put in as ticket takers and ushers, and are taken on trips with the foot ball team to act in like capacities in the games away from Madison. He must cultivate the influential students and use his power of issuing complimentary tickets judiciously. These things imply nothing dishonest, but a system which makes them necessary is nevertheless a faulty one. The graduate manager should depend on his record for his position. His field of activity should be athletic business, not athletic politics. The obviously needed change is to place his election with the University authorities and give him a position comparable in dignity, responsibility and compensation to a professorship. This has been recommended by all the alumni meetings, and by the student conference, so that it now seems likely to be one of the changes, perhaps the most important one, which will be recommended by the conference. It will then rest practically with President Van Hise and the regents, to put it into effect. Wisconsin is the last great University of

the West which has not done something like this, and in view of the advantages to be gained by it—continuity of policy, responsibility and economy, it is difficult to see how it can fail to prevail.

2. The alumni have never been sufficiently represented in the government of athletics and the conference is certain to ask for greater recognition. Whether the request will be for additional membership on the board of directors or a distinct alumni advisory committee, cannot be stated in advance. Inasmuch as the alumni representatives would in any event serve chiefly as counsel it would seem as if the plan of an advisory committee might be the better one. Against the demand for additional places on the board of directors is urged the fact that the usual meetings of the board are given up to detail business; that an out-of-town member would find it impractical to attend more than a small percentage of the meetings; and that this would weaken his influence and impair the efficiency of the whole plan. An alumni advisory committee would be called together only when some matter of great importance was to be considered, or, on its own initiative, when its members believed that conditions demanded a conference. Such a committee could be given access to the books, and other authority, sufficient to insure publicity. Incidentally, under any system a complete financial statement should be made at least once a year.

3. Each interest represented upon the board should choose its own representatives, instead of all being chosen, as at present, by the students. This is suggested by all the alumni

resolutions thus far adopted and there is no logical justification for any other plan. If any opposition develops here it will be likely to come from the student members, but the men chosen to represent the undergraduate body are not likely to stand out when the matter is clearly presented.

4. The present system of electing coaches by the board of directors is not entirely satisfactory and various suggestions have been offered. The gist of all of them is that while the student body, which is most immediately affected should be strongly represented, there should also be counsel from older men who are by experience better fitted to judge the qualification of a coach. The only opposition to the Chicago resolutions has been on the matter of the present so-called graduate coaching system, which the alumni not only in Chicago but in Milwaukee and Madison, recommended should, for the present, be discontinued. The advocates of the plan which has been tried two years fought stubbornly for its retention but they formed a numerically insignificant minority. Against it, the only argument which has been deemed necessary is that Wisconsin should employ the best coaches obtainable *anywhere*, Wisconsin men being in no way barred. In both places the vote was decisive, and at Madison it was unanimous. While the conference may discuss the question of who should be secured to coach the 1905 foot ball team, it will, for the most part, probably deal only with the general proposition of a better permanent plan for the selection of coaches at any and all times when a choice may be necessary.

5. The present manner of electing

the student members of the board of directors tends to bring to the board men chosen for their athletic prowess. They may be, and often are, men of business ability and largeness of view but the choice of such men is largely a matter of chance. The election has come to be practically a test of popularity between men who must absolutely be athletes or stand no show. This is perhaps as difficult a problem as the conference will have to deal with, and in the opinion of the writer a complete solution can hardly be expected. The best reliance will be in the education of student public sentiment, which is pretty safe when the issue is squarely presented. The Australian ballot has been proposed. It would help somewhat, is wholly proper and should be used in any event. A rule restricting the number of varsity athletes, "W" men, on the board, might help to solve the difficulty and is worth trying, but the final settlement can only come with an educated student sentiment.

6. The financial system of the athletic association can be considerably improved. The only organized feature of it at present is the office of the treasurer. Sec'y E. F. Riley of the board of regents is treasurer of the association but he merely receives the moneys of the organization and pays them out upon the order of the graduate manager, countersigned by the president of the athletic association. Beyond Mr. Riley's books, which are practically only the cash book of the association, there is no adequate system of bookkeeping. No record is kept of notes and accounts payable and it is safe to say that the reason why no complete financial statement has ever been made is that in the ab-

sence of any complete system of book-keeping none has been possible.

7. There is likely to be considerable discussion as to how best to bring about economy in the management of the various departments and the expenditure of the athletic funds. With money in the treasury, there has always been a tendency to incur expense somewhat regardless of the question whether the money at hand would be sufficient for the actual needs of the association during the year. The mere fact of having money in the bank has usually, in the past, been a stimulus to develop means of spending it. Under the existing system, the board of directors is absolute master of the athletic association's funds and has been able to spend them as it pleased. It has been suggested that it might be well to require the sanction of the graduate manager to every resolution or motion authorizing the expenditure of money. This would couple authority with responsibility on the part of the manager and is not in any sense a revolutionary proposition.

8. Among the other numerous suggestions which have been made there is one in particular which has much to commend it. At Michigan and certain other institutions notable for the success of their athletic management, student managers are regularly elected, as at Wisconsin, but no regular assistant student managers are chosen. Instead, men who desire to work into managerships indicate that desire at the close of their sophomore year and as juniors they are permitted to work as volunteer assistants under the direction of the graduate manager. Each man is given work to do and an opportunity to prove his quali-

ties. Thus there are trained up competent assistants who are able to assume the duties of regular student managers with intelligence and ability, and the incompetents are weeded out by the natural and easy process of giving them work to do, which is usually not the thing that the undesirable class of would-be student managers is looking for.

As this article goes to press, the names of the last members of the conference to be selected have just been made public and the complete list is as follows:

Faculty representatives—Dean E. A. Birge of the College of Letters and Science; Professor Charles S. Slichter, Wisconsin's representative in the intercollegiate conference; Professor J. F. A. Pyre, '92, who was a varsity oarsman and foot ball player in his student days.

Chicago alumni—Dr. John M. Dodson, '80, dean of Rush Medical College; Frederick Whitton, '89, the prime mover in bringing about the present conference; George E. Waldo, '85e, a famous base ball catcher of the early days.

Milwaukee alumni—Rev. H. H. Jacobs, '93, guard on the foot ball

teams of '92 to '95 and captain of the '94 crew; Walter Alexander, '97, tackle from '94 to '96 and a crew captain; L. L. Alsted, '96, commodore of the '96 crew and student manager of two foot ball teams.

Madison alumni—M. S. Dudgeon, '95l, a former varsity base ball player; Dr. Walter H. Sheldon, end on the foot ball teams of '92 to '96; Ralph W. Jackman, '97.

Students—Capt. J. I. Bush and Wilson H. Bertke of the 1904 foot ball team; Capt. T. E. Leahy of the base ball team; Student Manager E. R. Minahan of the 1904 foot ball team; E. S. Jordan, P. H. Shram and J. J. Moffatt of the Cardinal staff; H. A. Barry, colonel of the University regiment; W. G. Hamilton, O. L. Kowalke, H. E. Wheelock and I. V. Cross, all prominent and popular students.

This committee is a strong and thoroughly representative one covering a wide range of time in its membership, and drawn from sufficiently varied fields and walks of life to insure a breadth of view and absence of partisanship that will enable Wisconsin to await its recommendations calmly and accept them confidently.

News

Progress of the University

Detailed Figures of Attendance.

In last month's Magazine a summary of this year's registration was made, and to this is added, below, a tabulated statement of the attendance by courses, schools and colleges:

Colleges.	1904-5	1903-4	In-crease.	Per cent in-crease.
College of Letters and Science.....	1,451	1,289	162	12.5
Philosophical course..	75	64	11	17
Commerce course.....	206	173	33	19
Pharmacy course.....	29	32	3	.9
College of Engineering	808	705	103	14.5
College of Law.....	177	193	16	.9
School of Music.....	220	227	7	.03
College of Agriculture.	90	55	35	65
Graduate School.....	116	95	21	22
Whole University..	2,657	2,379	278	11.6

High Honors For Professor Bull.

The Western Society of Engineers has just awarded a medal to Professor Storm Bull of the College of Engineering of the University of Wisconsin for the most meritorious paper presented before that society during the past year. The subject of Professor Bull's paper, which was delivered before the Western Society of Engineers in Chicago in November, 1903, and which has just been published in the proceedings of that body, was "The Use of Superheated Steam." The honor thus conferred upon Professor Bull is a most marked one, since the Western Society of Engineers is one of the most important organizations of members of the engineering profession in the country, and his paper was chosen from a large number which were presented in the course of the year.

To Correspond With Belgian Students.

The authorities of the University of Lieges in Belgium have proposed to Pro-

fessor W. A. Scott of the commerce course that the students of that institution correspond with the commercial students of the University of Wisconsin in order to familiarize the Belgians with English letter writing.

Course in Music for School Teachers.

In response to the demand of the Wisconsin public schools for teachers who can give instruction in music as well as in other branches, and also for supervisors of music in the grade and high schools, the School of Music of the University of Wisconsin will give special courses in methods of instruction in music for the public schools, beginning December 1 of the present year. Mr. Herman T. Owen, formerly of Boston, who has made a special study of the teaching of public school music, will give two courses, one of which is intended for those who wish to teach music in connection with the regular branches, and one which is designed for those who wish to become supervisors of music.

Professor Hillyer's Book in Russian.

The Laboratory Manual of Inorganic Chemistry by Professor W. H. Hillyer of the department of Chemistry of the University has just been translated into Russian under the supervision of Ivan F. Schroeder, professor of inorganic chemistry and metallurgy at the University of St. Petersburg.

Language and Literature Club.

The second meeting of the Language and Literature Club of the University of Wisconsin was held Friday, December 2. Professor Julius Olson of the department of Scandinavian Archaeology presented a paper relating to Penka's Theory

of the Home of the Aryans. Dr. M. B. Evans of the German department discussed *The Relation of Der Bestrafte Brudermord to Shakespeare's Hamlet*.

Wisconsin Men to Address Historical Association.

The twentieth annual meeting of the American Historical Association will be held in Chicago on December 28-30. An interesting program has been arranged for the occasion, in which several members of the history department of the University will take part. Professor D. C. Munro will discuss the character of the doctoral dissertation in history, and the doctor's degree, at one of the round table conferences, and Professor C. H. Haskins, formerly of the University, will lead the discussion on the subjects for doctor's theses. Professor C. R. Fish is to read a paper on the teaching of church history in colleges and grade schools. Secretary R. G. Thwaites of the Historical Society will present a paper on the problems of state and local historical societies. Professor James A. James, '88, professor of history in Northwestern University, will lead the discussion on the teaching of history in the elementary schools. Professor Ettore Pais, of the University of Naples, who is to deliver a series of lectures at the University during the second week in December, will speak on *Roman History*. Among the officers of the American Historical Association are Professor J. F. Rhodes, Mr. Herbert Putnam, librarian of the Congressional Library, Professor George L. Burr, to all of whom the University granted the degree of doctor of laws at the Jubilee commencement, and Professor Frederick J. Turner of the history department of the University of Wisconsin.

Translation by Professor Trowbridge.

Professor Augustus Trowbridge of the department of Physics of the University of Wisconsin has translated into English Professor Augusto Righi's new book on "*The Modern Theory of Physical Phenomena (Radio-activity, Ions, Electrons.)*"

Professor Righi, who occupies the chair of physics in the University of Bologna, has published a number of books on scientific subjects, several of which, like the one just translated by Professor Trowbridge, are of a popular character. This latter work of Professor Righi's deals with very important discoveries in electricity and molecular physics which have been made in the last eight or ten years, and presents the whole of this interesting material in elementary but thoroughly scientific manner.

Many Attend University Dairy School.

The winter term of the Dairy School has opened with an attendance of one hundred and twenty-five students; as the arrangements of the school were planned for but one hundred students, the school is crowded and it has been necessary to transfer the lectures to the new Agricultural Building. The work of the school, which continues for twelve weeks, includes creamery butter making, factory cheese making, laboratory milk testing, and shop work with dairy machinery. A party of Swiss cheese makers from Green county is attending the school this year to take advantage of the instructions in foreign cheese making which the Dairy School now offers.

Gift to Encourage Debate and Oratory.

Mr. Halle Steensland, of Madison, has just given the University of Wisconsin \$300 to be used as prizes during the next three years, for the encouragement of extemporaneous debate, essay writing, and oratory among the students.

Civil Engineers Visit St. Louis.

Thirteen senior civil engineering students of the University of Wisconsin accompanied by Professor W. D. Taylor of the College of Engineering spent a week at St. Louis inspecting the exhibits of professional interest to civil engineers.

To Study Legislation.

A new course in the theory and practice of legislation will be given at the University of Wisconsin, beginning this week, by Professor Paul S. Reinsch. After a preliminary course of lectures upon the organization and methods of procedure of the legislatures, the class is to be organized in the form of a legislative body. Adhering strictly to the practice of legislative assemblies, it will prepare and discuss bills upon questions of public importance. Committees will investigate the conditions in the state, and the legislative experience in other commonwealths, and will submit bills drawn with a view to meet the conditions in Wisconsin. The class will also study the methods of procedure of the legislature which will be in session after New Year's, and follow certain important bills in their course through that body. It is intended in this way to make the students directly familiar with the processes of legislative action, and to give an insight into the manner in which economic and legal questions are dealt with in the course of legislation.

Dairy Students Organize Literary Society.

The one hundred and twenty-five students attending the winter session of the Dairy School of the University of Wisconsin have organized a literary society. Meetings are held each week at which programs are presented consisting of debates and essays on the subjects of interest to butter and cheese makers. The officers of the new organization are as follows: President, William M. Russell, San Francisco, Cal.; vice-president, W. J. Flick, Dunville, Wis.; secretary, Raymond Nequette, Lena, Wis.; treasurer, Francis Schwingel, Avoca, Wis.; marshal, Melvin D. Nelson, Sawyer, Wis.

Wisconsin Anatomists Read Papers.

At the annual meeting of the American Society of Naturalists and the Association of American Anatomists, which will be held in Philadelphia, December 27-29, Professor C. R. Bardeen and Dr. Ferdinand Schmitter of the department of anatomy of the University of Wisconsin will present papers giving the results of some of the research work which has been carried on in the new anatomical laboratories of the University. Dr. Bardeen will read a paper on "The Development of the Cutaneous Nerves of the Leg," and will demonstrate models which he has constructed to illustrate the early development of the skeleton. Dr. Schmitter will present a paper on "The Cytological Changes Brought About in the Kidneys by Dilute Salt Solutions." Dr. Bardeen will also present a paper by Mr. A. O. Fisher, a senior in the University, on the "Differences Between the Structure of the Skin of the Male and That of the Female Frog."

Faculty Contribute to Magazines.

Members of the faculty have recently contributed numerous articles in the leading scientific and literary magazines.

Professor Otto Patzer of the French department has an interesting article on *The Wealth of the Clergy in the Fabliaux in Modern Language Notes* for November.

Dr. Paul F. Reiff, formerly of the German department, now of Washington University, contributes a discussion on *The Views of Tragedy Among the Early Romanticists* to the same number.

Professor William D. Frost of the department of bacteriology has an interesting article in the November number of the *Journal of Infectious Diseases*, entitled *The Antagonism Exhibited by Certain Saprophytic Bacteria Against the Bacillus Typhosus Gaffky*.

Daily Calendar

This department is conducted by L. W. Bridgman, '06.

NOVEMBER.

Sunday, 6.—Y. M. C. A. was addressed by Sec. C. D. Hurrey of the International Committee.—Engineering students and professors returned from St. Louis fair.

Monday, 7.—Executive committee appointed 8 instructors, gave Prof. C. K. Leith leave of absence for four days of each week as non-resident professor in geology at University of Chicago, and engaged Prof. Ettore Pais, eminent historical scholar of Roman history, of Naples, Italy, for special lectures in Latin and history.—Miss Florence G. Rietow will fill vacancy on Badger board.—Dr. Richard Burton, until recently head of English department at Minnesota, gave first of series of lectures; subject: The Drama as a Social Force.—Rally under auspices of University Democratic club was addressed by Hon. W. F. Vilas, '58, and Joseph G. Donnelly of Milwaukee.

Tuesday, 8.—Classes suspended account of election day.—Christian associations gave election social in Assembly hall, where returns were received.

Wednesday, 9.—Self Government association will hold fair in December to aid Woman's building project.—To prevent confusion in official and unofficial communications, executive committee forbade student organizations' use of letter head in any form other than the "University of Wisconsin."—Faculty recommended for degree of doctor of philosophy: Geo. M. Reed of Geneva college, Beaver Falls, Pa.; H. W. Quaintance, University of Missouri, and S. M. Hadley, Penn college, Oskaloosa, Ia. Following were appointed to scholarships in Hebrew and Hellenistic Greek: Maurice W. Moe, '04; George W. Briggs, '03; and Rolla G. Sears, Springfield college, Fellowship in same awarded to A. L. Breslich, Wisconsin, Ph. D., '04.

Thursday, 10.—Dr. Jerome Dowd and

classes in Sociology and Charities and Corrections left for Milwaukee and Chicago for study of dependent and delinquent classes, university settlement in Milwaukee and Hull House in Chicago being especial places of interest.—Phi Gamma Delta attended "The Pit" in recognition of their late brother, Frank Norris, the author.—Iron Cross initiated Thomas Leahy, Daniel W. Hoan, William G. Hamilton, Alonzo C. Boyle, Everett C. Schreiber, Hamlet J. Barry.—"Hang-out" number of Sphinx created unusual interest.

Friday, 11.—Rev. H. H. Jacobs, warden of university social settlement, Milwaukee, spoke on work of settlement at convocation.—Chadbourne hall girls gave largely attended reception.—Oratorical association invited to enter Oratorical League of State Colleges.—Philomathia inaugurated officers: President, A. G. Arvold; vice president, M. Hueffner; recording scribe, E. Roehr; censor, C. Sprague; assistant censor, T. Berto. It was decided to have Philomathia buttons.—Wisconsin Dairy School Literary society of class of 1905 organized.—Paul H. Hammersmith, John Leslie and Benj. F. Davis elected to vacancies on Athena's semi-public team.—Hesperia elected officers: R. A. Schmidt, president; Henry C. Duke, vice-president; John Wrieth, secretary; W. A. Brindley, censor.

Saturday, 12.—Registrar Hiestand announced enrollment of 2,657, increase of 278 over last year.—Prof. Joseph Jastrow talked on the Arundel Prints at art exhibit.—Minnesota triumphed over Wisconsin at Minneapolis, score 28—0.—Freshmen scored 80 points on Milwaukee Medical college team at Camp Randall.—Victor Griggs won first in Hamilton contest preliminaries, Max Loeb second, J. E. Baker third.—Miss S. Fjoslein, Max Loeb and C. E. Bovet gave papers before International club.—Arthur E. Grunert, '07, of

Chicago, shot in foot by Waldo Mason, '08, of Boston, in hazing affair.

Sunday, 13.—Miss Caroline Porter, state secretary, addressed Y. W. C. A.—Rev. H. H. Jacobs spoke to Y. M. C. A. on settlement work.

Monday, 14.—Members of Self Government association resolved to accept no invitations to mid-week dancing parties.—Christian association began week of prayer.

Tuesday, 15.—Dr. F. W. Meisnest gave first of eight lectures on Life and Works of Schiller.—Georgetown Law school challenged Wisconsin Laws for debate.—Andrew O'Dea resigned as football trainer.—Before Science club E. W. Olive presented paper on Algae, and Dr. C. R. Barden on Development of Anatomy in America.—Prof. W. W. Daniells addressed Chemical club.—Prof. Hohlfeld and Dr. Meisnest left on high school inspection tour.—Communication received by Prof. Scott from University of Liege in Belgium, proposing establishment of communication with students taking commercial French at Wisconsin.

Wednesday, 16.—Dr. C. H. Handschin gave lecture on Bismark before Germanistische Gesellschaft.—Organ concert, arranged by school of music, given at Presbyterian church by Mrs. Leone Langdon Key, organist, and Mrs. Eda Zuckerman Schram, soprano, of Chicago.—Chicago Edison Manufacturing Co. made offer to senior mechanical engineers to inspect its turbine engines, in preference to other schools.—Fencing class of 20 men began work.—Spanish club initiated Tracy Burke, Earl Pryor, William Morgan, C. S. Brown and Lorenzo Davila, latter a Porto Rican.

Thursday, 17.—Game scheduled between Wisconsin and Chicago freshmen called off by Coach Stagg.—First meeting of recently organized conference of students and faculty held.—Silk banner won by gymnastic team last year, received.—President Halle Steensland of Madison Loan & Trust Co. gave \$300 to university to be offered as prizes in debating and oratory.—Thirteen civil engineers under Prof. Taylor went to St. Louis exposition.—Edwin Booth and Red Domino dramatic societies will pre-

sent play Feb. 18.—Girls' athletic association elected officers as follows: President, Mabel Gordon; vice president, Caryl Parsons; secretary, Madge Loranger; treasurer, Janet Scott; tennis director, Gertrude Hunt; basket ball director, Daisy Moser; member at large, Irma Kussel.

Friday, 18.—Sophomores beat freshmen at football, 21-0.—Archaeological Value of the Piranesi Etchings was subject of address by Prof. M. S. Slaughter at art exhibit.—Varsity team taken into country for practice.—Registration in school of music is 220. School is about to offer special courses in methods in public school music.—Platteville Normal joint debate team visited Athena.—Philomathia presented with walnut gavel by W. H. McIntosh, instructor in wood mechanics.—Agricultural Literary society held semi-semester election: President, R. R. Schwartz; vice president, W. F. Handschin; secretary, E. P. Gorman; treasurer, A. T. Henry; sergeant-at-Arms, C. Schroeder.—Interfraternity bowling league reorganized.

Saturday, 19.—Haresfoot club agreed to give benefit play, Jan. 20, as University recognition of Milwaukee social settlement.—Prof. N. M. Fenneman, head of geology department, called away by his father's death.—Roland C. Allen fills place of Voyta Wrabetz on Wisconsin debating team.

Sunday, 20.—Self Government association held annual Thanksgiving vesper services, addressed by Dr. Georgiana M. Morrill of English department on "Ideals of Thanksgiving among University Women."

Monday, 21.—U. S. Geological Survey has just published voluminous work on Metamorphism by President Van Hise.—Classical club meeting with Miss Katherine Allen, discussed "The Oldest Civilization of Greece."

Tuesday, 22.—Delegation of 43 representing University of Georgia, oldest state university, arrived for 2-days' visit of inspection of University of Wisconsin, regarding it as model and greatest state university. Great convocation in gymnasium at noon addressed by Gov. Terrell of state of Georgia, Chancellor Walter B. Hill of

University of Georgia, Chief Justice S. M. Adams, of board of trustees, Clark Howell, editor Atlanta Constitution, and George Foster Peabody, New York philanthropist. Afternoon spent in inspection of buildings. Reception by President and Mrs. Van Hise in the evening.—M. R. Wadsworth, '08, won first place and monster turkey in turkey race from capitol to campus; Rowland Hill, '07, came in second.—Sophomore and freshman gymnastic classes gave exhibition drill for Georgia party.—H. W. Brown, H. Karrow and J. B. Jones, Athenaeans, carry off three highest places in freshman declamatory contest.—Athletic board appointed committees.

Wednesday, 23.—Georgia party took drive on lake shore, visited agricultural college, observatory, etc. Ladies of party entertained at luncheon by Mrs. W. W. Daniells. Dinner parties given in evening, closing with reception by Gov. and Mrs. La Follette at executive mansion. Return made at midnight.—Cornell suggests debate with Wisconsin.—Basketball team will take eastern trip in January.—Dairy and short course students will use gymnasium two nights each week.—University closed for Thanksgiving recess.

Thursday, 24.—Football season closed at Chicago, Maroons winning 18 to 11.

Monday, 28.—Departments resumed work.—Daily Cardinal began policy looking to solution of athletic difficulties. E. J. Vanderboom published plan for reconstruction of athletic association.

Tuesday, 29.—F. L. Shinn of chemistry department, lectured on the Life and Work of Frederic August Kekule before Chemical club.—Prof. D. E. Burchell and Dr. H. C. Taylor spend week at world's fair, object being to secure materials for a commercial museum.—Interfraternity bowling association made plans for winter's schedule. Two cups offered.—One hundred agricultural students attended International Stock show at Chicago.

Wednesday, 30.—Class in legislation, to

utilize opportunities afforded by session of legislature, organized under Prof. Reinsch.

DECEMBER.

Thursday, 1.—Forty-three reported as candidates for freshman crew.—Committee on legislation of board of regents met to plan for presenting financial needs of university to legislature, soon to convene. No large buildings to be asked for this time.—Agricultural college's sheep exhibit at Chicago stock show won more prizes than all other competitors combined.

Friday, 2.—Dr. R. T. Ely spoke at convocation on The Price of Industrial Progress.—Hon. Pleasant A. Stovall bestows high praise to Wisconsin in article in Savannah Press on "A Model University," republished in Cardinal.—Basket ball team won initial game from Co. G at Sparta, score 75 to 10.—Prof. J. E. Olson and Dr. M. B. Evans read papers before Language and Literature club.

Saturday, 3.—Y. W. C. A. gave play for women of university.—President Van Hise received resolutions adopted by Georgia party upon their return.—University has sent out comprehensive list of reference books for high school libraries to each of 270 accredited high schools.—Basket ball team defeated La Crosse 54 to 16.

Sunday, 4.—Dean E. I. Bosworth of Oberlin Theological seminary addressed 275 students on "The Best a Man Can Do."

Monday, 5.—Choral Union produced "Stabat Mater," assisted by Chicago soloists and Bach's Milwaukee orchestra.—Chicago Alumni association submitted to students an open letter relative to solution of athletic situation.—Baseball and track schedule published.—Prof. Storm Bull awarded medal by Western Society of Engineers for meritorious paper on The Use of Superheated Steam, read before that society.—Directory distributed; enrollment numbers 2,657, freshman class 663.—Short course in agricultural opened.

Alumni

Alumni are requested to contribute to this department. When newspaper clippings are sent, care should be taken to indicate date and place, clearly. Distinguish between date of paper and date of event recorded. Report all errors promptly. The notation used in this department is as follows: Two figures preceded by an apostrophe indicates the year of graduation. Two numbers separated by a dash indicate the period of residence of a non-graduate. Where only figures are given the college of letters and science is indicated; e stands for engineering department; l, law; p, pharmacy; h, higher degrees; (Hon.) honorary. Addressed envelopes will be furnished to any one who will use them regularly to send news to this department.

Joint Alumni Banquet at Chicago.

On October 28, the eve of the Wisconsin-Michigan football game, the Wisconsin and Michigan Alumni Associations of Chicago held a very enjoyable combination smoker-dinner at the Hamilton Club. Over one hundred guests were present, about one-half from the alumni of each university. Considering the fact that Michigan has over 1,100 representatives in Chicago and Wisconsin in the neighborhood of 400 the relative showing by Wisconsin was very creditable. A number of prominent alumni spoke during the evening including Judge Philip Stein, '65, Dr. John M. Dodson, '80, D. K. Tone, '91, and George Waldo, 85e. Arrangements are now in hand for a dinner with the alumni of the University of Chicago some time in January or February. It was first planned to have this combination affair on the night before Thanksgiving, this being the eve of the Wisconsin-Chicago football game. Business matters in connection with the alumni meeting of the U. W. Club, however, made a combination dinner at this time inexpedient.

'54

A Denver paper of the early autumn contains the following regarding Levi Booth, the first graduate of the University of Wisconsin:

"Mr. and Mrs. Levi Booth, whose home is on Cherry creek, five miles from Denver, will celebrate their golden wedding tomorrow. They came to Colorado June 31, 1860, from Madison, Wis., where Mr. Booth graduated from the university and where he practiced law for six years. Mr. Booth first located in what was then known as California gulch, now Leadville, and

engaged in mining. He was not so fortunate in mining as some and afterwards opened a grocery store, bank, postoffice and express office, while Mrs. Booth conducted a hotel. Their only pay at that time was in gold dust but there was plenty of that, which sold for \$22 an ounce. Mrs. Booth had at one time with her twelve pounds and did not lock the doors at night either.

"Mr. and Mrs. Booth lived in California gulch until the fall of 1863, when they went to La Masilla, Mexico, and stayed there during the winter of 1863, coming thence to Denver and buying a quarter section of land out on Cherry creek, where they now live. The land was purchased of Mother Cawker, subsequently Mr. Booth bought the whole section of land which he now owns. In 1864 the great Indian scare was on and Denver sent out patrolmen around the country to bring in the campers, for fear of molestation, but the alarm proved needless. Mrs. Booth tells the thrilling story of the massacre by the Cheyennes of the Hungate family, which occurred in 1864; father and mother and two children lost their lives. After the massacre their wearing apparel was brought to the Booth ranch, even to the little string of beads which had been around the baby's neck and was covered with blood. In 1864 Mr. Booth and family came near being drowned with his five horses near Pueblo, where the recent cloud burst occurred. Only for soldiers, who came near them and saw their situation, they might have all perished.

"Mrs. Booth was Miss Millie A. Downing in Erie, Pa. Levi Booth was born in Moravia, N. Y., and was 75 years old on the first day of May, 1904. One son, Gillette Booth, is taking care of his father's ranch; the other children, Mrs. C. C. Holbrook of Alamosa, wife of Judge Hol-

brook, and Mrs. Daniel Working, living on the Booth ranch. There are ten living grandchildren. Mr. Booth underwent a very critical operation at St. Luke's hospital about three weeks ago, but is doing well and expects to be home, surrounded by his family and friends, tomorrow, his fiftieth wedding anniversary. Mrs. Booth is truly a humanitarian. Her works of charity are widely known. Of the many who have been to her door, and asked for assistance, not one has ever been turned away. More than twelve persons, who were comparative strangers to her, have been buried from her home, to whom she had administered and whose dying hours she had soothed with words of comfort."

Madison Stoner writes further to his brother, George W. Stoner, of Madison, regarding Mr. Booth: "I see Mr. Booth every day," he says, "and find him progressing towards recovery. He has recovered sufficiently to be out of bed and wheeled around the hospital in a vehicle specially adapted for the purpose. It is about a month since the operation was performed and if he keeps on convalescing as he has continued to do for the past week or so he will be able to return home where he can be attended to nearly as well as at the hospital, but it will be several months with the best of care and attention when he will be able to be about. He will probably never be in a condition to assume his former activity. It is not to be expected as he is 75 years of age."

'59

The Right Reverend Samuel Fallows, '59, bishop of the Methodist Episcopal church, is president of the board of managers of the Illinois State Reformatory, and was recently appointed chaplain of the Second Infantry, Illinois National Guard. Bishop Fallows, on December 6th, laid the cornerstone of the new Summerfield M. E. church at Milwaukee. From 1865 to 1868 Bishop Fallows was pastor of this congregation.

'65

Judge Philip Stein, '65, was defeated for re-election as judge of the Superior Court

of Cook county. Judge Stein is a prominent democrat and ran far ahead of his ticket but lost in the republican land slide in a comparatively low margin.

'69

Mrs. August Flosbach, who was Miss Elizabeth S. Spencer, '69, resides at Eden Vale, Cal.

'70

Mrs. W. P. Lyon, who was Miss Ellen Lasea Chynoweth, '70, resides in Eden Vale, Cal.

'71

C. H. Van Wormer, '71, is operating a fruit ranch at Santa Rosa, Cal.

Judge Arthur Chetlain, '71, was re-elected judge of the Superior Court of Cook county in the late election. Judge Chetlain was president of the U. W. club of Chicago.

'72

Charles William Roby, '72, at one time editor of the Portland Oregonian and postmaster of Portland under Cleveland's administration, died at the Verona Asylum in October. Mr. Roby was a brilliant student in the University and at his graduation was elected superintendent of schools in Winnebago county and afterwards principal of the Winneconne high school. From 1874 to 1880 he was superintendent and principal of the La Crosse high school. Then he moved west and became superintendent of the Portland, Oregon, schools and proprietor of the Portland Oregonian and postmaster under President Cleveland, from 1885 to 1890, as above noted. Finally his health broke down and he moved to Fresno, Cal., where he was chosen superintendent of schools, but shortly after he suffered a stroke of paralysis which resulted in a mental disorder from which he never recovered.

W. P. Lyon, '72 Hon., former chief justice of the Wisconsin Supreme Court, resides with his family at Eden Vale, Cal.

Mrs. A. C. Arnold, who was Miss Alethe Church, '72, resides at 519—11th St., Sacramento, Cal.

E. C. Arnold, '72, is engaged in the real estate business in Oakland, Cal. His address is 422—11th Street.

'73

E. W. Hulse, '73, is in the real estate business in McPherson, Kansas.

'74

Alfred H. Bright, '74, resides at Minneapolis, where he is connected with the "Soo" railroad as counsel.

Mrs. C. N. Akers, who was Miss Mary S. Dwight, '74, resides at 1455 Van Buren St., St. Paul, Minn. Mrs. Akers is a member of the executive board of the State Federation of Women's Literary Clubs of Minnesota.

Webster E. Brown, '74, of Rhinelander, was re-elected to Congress from the Tenth district.

'75

Jared Warner Mills, '75, who is a leading attorney in Denver, Col., visited in Madison this fall.

Edmund G. Hursh, '75, is U. S. pension examiner at San Francisco, his address being 3668—20th St.

W. H. Rogers, '75, is a practicing lawyer in San Jose, Cal. His business address is in the Auzerais Bldg.

'76

Mrs. J. O. Hayes, who was Miss Clara Isabel Lyon, '76, resides in Eden Vale, Cal.

Miss Lois Nelson, '76, is a practicing physician, located at 1132 Sutter Street, San Francisco.

Miss Helen D. Street, '76, continues as instructor of Latin in the Lewis Institute, her residence address being 754 Adams Street, Chicago, Ill.

Miss Mary M. Henry, '76, resides in Madison at 313 Johnson Court.

'79

Miss Jeannie Bascom, '79, resides in Williamstown, Mass., where Dr. Bascom, her father and the distinguished former president of the University of Wisconsin,

is a member of the faculty of Williams College.

The Reverend Archibald Durrie, '79, 82h, is pastor of the Methodist church of Hastings, Minn.

'80

Miss Mary A. Nelson, '80, resides at 712 N. 7th St., Manitowoc.

D. W. Smith, '80, is practicing law in Milwaukee, with offices at 144 New Insurance Bldg.

J. O. Hayes, '80, is in partnership with his brother, E. A. Hayes, '82, in San Jose, Cal., with offices in the Auzerais Bldg.

'81

W. P. Lyon, Jr., '81, is president of the Eden Vale Fruit Company which operates extensive fruit ranches near Eden Vale.

'82

E. A. Hayes, '82, now a prominent editor and capitalist of San Jose, was elected a member of Congress for the 5th congressional district of California at the recent election.

F. F. Oster, '82, is judge of the Superior Court at San Bernardino, Cal.

Miss Florence Bascom, '82, is connected with the geology department of Byrn Mawr College, Byrn Mawr, Pa.

'83

L. M. Hoskins, '83, is a professor in Leland Stanford University. His address is 365 Lincoln Ave., Palo Alto, Cal.

Florian Cajori, '83, is dean of the engineering school of Colorado College, Colorado Springs, Colo.

W. G. Witter, '83, '89, is engaged in the practice of law and in various business enterprises in San Francisco, his office being 402 Crossley Building. Mr. Witter resides in Berkeley.

Mrs. Geo. I. Brown, who was Miss Alice J. Sanborn, '83, '86, resides at 25 Clark Ave., Freeport, Ill.

Miss Eleanor O'Sheridan, '83, of Madison, is home from Chicago, where for several months she has been under treatment for a sarcoma on the neck. She is entirely cured by the use of the X-ray.

O. C. Baker, '83, is senior member of the firm of Baker & Osborne, dealers in grain, lumber and coal, at Ralston, Ia.

'84

Dr. A. J. Ochsner, '84, was recently elected president of the U. W. Club of Chicago, which is the Chicago organization of University of Wisconsin Alumni.

C. F. Dahl, '84, is engaged in the drug business in Viroqua.

Willis H. Miner, '84, is connected with the Menasha Wooden Ware Company of Menasha, Wis.

Louis Falge, '84, is practicing medicine at Reedsville, Wis.

'85

George L. Bunn, '85, is judge of the Second District, State of Minnesota, at St. Paul.

L. H. Pammel, '85, is professor of botany in the Iowa State College of Agriculture at Ames, Iowa.

'86

Emil Weschcke, '86, is an instructor in the College of Physicians and Surgeons of San Francisco. His residence is Telegraph Ave., Oakland, Cal.

Miss Mary Connor, '86, is living at Token Creek, Wis.

'87

John H. Gabriel, '87, '89l, is a leading attorney of Denver, Colo. His office address is 712-713 Kittredge Building.

A. D. Rundle, '87, '91l, is connected with the Illinois Central Railroad in Chicago. He returned to Madison for the Michigan game this year.

F. E. Bamford, '87, captain in the 28th U. S. Infantry, is stationed at the Presidio at San Francisco, Cal.

G. A. Boehme, '87p, is engaged in business in Stockton, Cal. His address is 43 S. Joaquin St.

G. F. Witter, '87, '89l, is practicing in San Francisco and resides at Oakland, Cal.

Frederick W. Winter, '87, is the junior member of the firm of Kay, Totten & Win-

ter, counsellors and patent lawyers, at 1202 Frick building, Pittsburg, Pa. On December 6th, Mr. Winter read a paper before the engineers' society of West Pennsylvania on Facts Concerning Patents Not Generally Understood and of General Interest to Engineers.

'88

Kirke L. Cowdery, '88, is associate professor of French in Oberlin College. His address is 184 Woodland Avenue, Oberlin, Ohio.

L. M. Hancock, '88, is a civil engineer in San Francisco. His business address is 402 Rialto Bldg.

J. E. Serwe, some time a member of the pharmacy class of '88, is engaged in the wholesale drug business, being located at 409 Market Street, San Francisco, Cal.

F. J. Colignon, '88, is a member of the firm of Dillon & Colignon, attorneys, at Ashland.

J. L. Van Ornum, '88e, continues as professor of civil engineering in Washington University at St. Louis, Mo.

DeWitt S. Clark, '88, resides at Eau Claire.

M. A. Hall, '88l, is located at Omaha, with offices at 609 New York Life building.

John R. Wise, '88, for many years a clerk in the Department of the Interior at Washington, has been appointed assistant superintendent of the Indian school at Carlyle, Pa. "The Arrow," published by the students of the school, speaks of Mr. Wise's appointment as follows: "The school welcomes Mr. John R. Wise as assistant superintendent. Mr. Wise has been in the land division of the Indian office for many years and comes to us with valuable experience. He has also been a teacher and will have immediate charge and be responsible for the conduct of the academic department, the school office, outing system, farms and dairying, and in the absence of the superintendent, the school will be under his charge. Mr. Wise arrived on Saturday and is already so at home in the work that he impresses all that he has been with us much longer than five days."

'89

Chas. E. Ware, '89, loans and investments, 153 La Salle St., resides in Evanston, Ill., at 1021 Judson Ave.

Edgar S. Nethercut, '89, chief engineer of the Paige Iron Works, was an unsuccessful candidate for trustee of the University of Illinois on the prohibition ticket. Mr. Nethercut was the only candidate of any of the lesser parties mentioned by the Chicago Daily News for the attention of independent electors.

Jacob Cambier, '89*p*, is connected with the Colorado Fuel and Iron Company. His address is 910 Spruce Street, Pueblo, Colo.

The casting of votes by members of the Batavia Plantation company of Milwaukee for an inspector to make the annual inspection of the company's property in Mexico resulted in the selection of F. J. Finucane, 89*l*, of Antigo, Wis. There were nine men who were voted for and Mr. Finucane received the highest number cast for any one candidate. He will make the trip early in the coming year.

'90

Mr. and Mrs. W. W. Churchill, both of whom were members of the class of '90, spent the summer abroad. Their itinerary included Italy, France and England. Mr. Churchill is third vice-president of the Westinghouse, Church, Kerr Company of New York City.

Lyman G. Wheeler, '90, who is engaged in the practice of law in Milwaukee, resides at Wauwatosa.

Miss Eleanor C. Austin, '90, resides at Bloomington.

J. T. Shepard, '90, is first lieutenant and assistant surgeon in the United States Army and is at present stationed at the Presidio, San Francisco.

E. J. Angle, '90, is practicing medicine in Lincoln, Neb. His address is 1215 O Street

R. B. Green, '90, has removed from Eveleth, Minn., to Sumpter, Ore., where he is chemist for the Oregon Smelting and Refining Co.

S. D. Townley, '90, 92*h*, is located at

Ukiah, Cal., where he is astronomer in the International Latitude Observatory.

Dr. F. I. Drake, '90, has given up his medical practice at Antigo, Wis., where he has been located for the past six years, and is in Madison for the present.

Eldon J. Cassoday, '90, 92*l*, is a member of the law firm of Cassoday & Butler, corporation attorneys in Chicago. Mrs. Cassoday was formerly Sophie Clawson, '92. Their home is at 134 E. 50th Street.

Dr. T. L. Harrington, '90, is instructor in medicine in the Milwaukee Medical College.

Bert. B. Collyer, '90*p*, for several years pharmacist with E. Sumner & Son, Madison, purchased the stock of the Wisconsin Pharmacy, located in the Wisconsin block at the head of Sate Street, last summer.

'91

Fred T. Kelly, '91, is instructor in Hebrew and Hellenistic Greek in the University and resides at 310 Bruen Street.

George E. Morton, '91, '93*l*, who will be remembered as the captain of the 1892 Wisconsin track team, the first that ever took part in an intercollegiate competition, is practicing law in Milwaukee, his office being at 61 Loan and Trust Building.

Herman E. Georgi, '91*l*, was married to Miss Tillie Memmler at Milwaukee in November.

Miss Maybelle M. Park, '91, is assistant resident physician of the Waukesha Sanitarium at Waukesha.

'92

Mr. and Mrs. G. F. Witter reside at 830 E. 15th St., Oakland, Cal. Mrs. Witter was Miss Mary A. Carter, for some time a member of the class of '92.

R. H. Mieding, '92*p*, is proprietor of a drug store in San Francisco, located at the corner of Mission and 19th streets.

H. A. Adrian, '92, is located at Santa Barbara, Cal.

O. G. Libby, '92, is professor of history in the University of North Dakota at Grand Forks.

Earl W. DeMoe, '92*l*, is an insurance

adjuster with offices in the Mutual Savings Bank building in San Francisco, Cal.

Miss Ruth Marshall, '92, continues as teacher of the biological sciences in the Appleton high school.

Joseph K. Stephany, '92*b*, has purchased a drug store at Two Rivers, Wis.

'93

James L. Thatcher, '93, is superintendent of the public schools of Davenport, Ia.

James C. Hain, '93, is engineer of the masonry construction for the Chicago, Milwaukee and St. Paul Railway and is located at Chicago.

Mrs. Earl W. De Moe, who was Miss Ellen Breese Turner, '93, resides in Oakland, Cal., at 1374 Franklin St.

E. Ray Stevens, '93, is judge of the 9th judicial district of the State of Wisconsin, at Madison.

Gerd A. Gerdzen, '93*e*, is located at Winona, Minn.

J. R. Slonaker, '93, is an instructor in Leland Stanford University, his address being Palo Alto, Cal.

W. F. Stiles, '93, resides at Lake Mills, Wis.

The Reverend Herbert H. Jacobs, '93, was University preacher at the University of Chicago, Sunday, the thirtieth of October.

'94

Herman Schlundt, '94 is a member of the faculty of the University of Missouri at Columbia, Mo.

C. J. O'Connor, '94, '04*h*, is an instructor in the University of California, and resides at 2524 Dwight Way, Berkeley, Cal.

Miss Carolyn Morris Young, '94, is a teacher in Madison, her residence address being 103 E. Wilson St.

Alexander E. Matheson, '94*l*, is practicing in Janesville as junior member of the firm of Whitehead & Matheson.

Miss Margaret Stiles, '94, is at her home in Columbus.

Miss Mable Robinson, '94, is spending the year at her home, 543 Marshall Street, Milwaukee, Wis.

Mrs. W. H. Flett, formerly Miss Clara

Baker, '94, has removed from Merrill to Scranton, Iowa.

C. G. Lawrence, '94, is superintendent of schools at Canton, S. D.

William B. Overson, '94, '96*l*, is located at Williston, N. Dakota, and is state's attorney for Williams county.

'95

The November number of *Outing* contains an interesting story entitled "A Study in Fear" by Miss Zona Gale, '95. Miss Gale, who was formerly reporter on *The New York World*, has now given up newspaper work and devotes her entire time to general literary work. Her stories and poems appear from time to time in the best New York magazines.

Miss Edna G. Kimball, '95, resides in Superior. Her address is 875 W. 7th Street.

Miss Lenore F. O'Connor, '95, resides with her brother, C. J. O'Connor, 2524 Dwight Way, Berkeley, Cal.

B. L. Parker, '95, is the junior member of the firm of Greene, Fairchild, North & Parker of Green Bay.

Miss Edith Porter Robinson, '95, is at home this year, her residence address being 543 Marshall St., Milwaukee.

E. L. Chloupek, '95, has a position in the Fish Commission at San Francisco, his address being 307 Front Street.

Miss Agnes Bassett, '95, is instructor in art at Grafton Hall, Fond du Lac.

A. H. Ford, '95*e*, is instructor in the department of electric engineering of the Georgia School of Technology at Atlanta, Ga.

Oscar Rohn returned to Madison in July from a trip to Peru, where he has mining interests.

'96

Mrs. O. A. Oestreich, who was Miss Carrie Edgren, '96, resides in Janesville, where Mr. Oestreich is practicing law.

Frank V. Cornish, '96, is practicing law in San Francisco. His office address is 420 Crossley Bldg., San Francisco, Cal.

D. R. Jones, '96, resides at Berkeley, Cal. He is a professor in the State Normal School in San Francisco.

C. H. Kelsey, '96, is practicing in San Jose, Cal., his business address being Auzerais Bldg.

Edward C. Bebb, '96, is in the employ of the U. S. Geological Survey, his address being Chamber of Commerce Bldg., Denver, Colo.

Miss Rose Dengler, '96, is again teaching in the Eau Claire high school this year. Miss Dengler is instructor in German.

D. O. Kinsman, '96, is a member of the faculty of the State Normal School at Whitewater.

Charles E. Phelps, '96, is secretary and treasurer of the Ferrofix Brazing Company of Milwaukee. The company's plant is located at 251 Lake Street.

Albert H. Schmidt, '96, '98, has just recovered from an operation on his jaw. Mr. Schmidt spent six weeks in a Chicago hospital.

Edwin R. Ladwig, '96, is superintendent of the large tannery of the Pfister & Vogel Leather Company at Cheboygan, Mich.

Charles I. Burkholder, '96, is in the employ of the General Electric company of Schenectady, New York.

O. B. Zimmerman, '96, assistant professor of machine design, gave a course in nature study at the Monona Lake Assembly in July.

Louis M. Ward, '96, has been appointed manager of the Denver branch of the Crocker-Wheeler Electrical Supply Company, with offices at 525 Seventeenth Street.

E. C. Cornelius, '96, continues as instructor in Latin and Greek in the South Division High School of Milwaukee.

'97

Perry F. Brown, '97, is assistant city engineer of Oakland, Cal.

Victor W. Bergenthal, '97, has removed from Chicago to St. Louis, Mo., where he is connected with the Wagner Electrical Manufacturing Co., 2017 Locust St.

R. F. Schuchardt, '97, is with the Chicago Edison Company, 139 Adams St., Chicago Ill.

Born to Mr. and Mrs. Guy Nash at Shanagolden, Wisconsin, on November 2,

a son. Mr. Nash who graduated in '97, is manager of the Nash Lumber Company, whose lands lie mainly in Ashland County, the president and vice-president of the company being Thos. E. Nash of Grand Rapids and Wm. F. Vilas, '58, of Madison.

George H. Jones, '97, is in the electrical engineering business and is located at 139 Adams Street, Chicago, Ill.

John H. Bacon, '97, is state manager for Georgia, for the Johnson Electric Service Company of Milwaukee. Mr. Bacon's address is Atlanta, Ga.

Theodore W. Brazeau, '97, '00, was re-elected district attorney in the late election.

Henry F. Cochems, '97, who took his law course at Harvard, graduating in 1900, is secretary of the Republican State Central Committee of Wisconsin.

Elting H. Comstock, '97, is again superintendent of the public schools of Houghton, Mich.

John H. Gault, '97, '99, is secretary-treasurer of the Rohde Kindergarten Supply Company of Milwaukee.

Ralph W. Jackman, '97, (LL. B. Harvard, '01) is junior member of the law firm of Richmond, Lamb and Jackman of Madison.

Charles A. Libbey, '97, is engaged in the manufacturing business in Oshkosh, as an officer of the Oshkosh Logging Tool Company.

Ernest B. Smith, '97, who for some years was instructor in history in the Ryan high school of Appleton is this year engaged in business in Madison.

A. D. Tarnutzer, '97, is principal of the Sheboygan high school.

Earle C. Tillotson, '97, '99, is with Richmond, Lamb and Jackman of Madison.

Ossian T. Waite, '97, is engaged in the manufacturing business as secretary and general manager of the Oshkosh Grass Matting Company.

Miss Mariette B. Smith, '97, is teaching at Lake Geneva this year,

Miss Agnes E. McVicar, '97, resides at 202 Spring St., Waukesha.

Rev. Elmer Willis Serl, '97, is pastor of the Riverdale Methodist church at Dayton, Ohio. His address is 22 Bond Street.

'98

R. W. Hargrave, '98, and for three years instructor in mechanical practice at the university, has resigned his position in the engineering department of the Northern Electrical Manufacturing Company to accept the position of professor of machine design at the University of Michigan. Mr. and Mrs. Hargrave moved to Ann Arbor at the beginning of the college year.

Lewis M. Pearson, '97-'98, who graduated from Rush Medical College last spring, has been appointed to an internship in a prominent Chicago hospital.

John D. Manchester, sometime a member of the class of '98, has been appointed surgeon in the United States Navy with the rank of lieutenant. After leaving the University, Mr. Manchester graduated from Rush Medical College and subsequently from Polytechnic, New York City and Bellevue hospitals. During the summer Lieutenant Manchester served on the cruiser Columbia. He is at present with the party of Secretary Taft at Panama.

L. A. Goddard, '98, is pastor of the Congregational church of Redding, Conn.

Miss Elizabeth von Briesen, '98, teaches Latin in the Menasha high school.

W. B. Ford, '98, is practicing medicine at Norwalk.

R. U. Cairns, '98, is practicing medicine in River Falls.

'99

Myron Fowler, '99, has a position with a leading electrical manufacturing firm in Chicago. Mr. Fowler and members of his family visited Professor and Mrs. T. H. Brand, at the time of the Michigan game.

Theodore T. Jones, '97-'99, better known as "Ted" Jones, half back on the varsity team in '98, is engaged in the lumber business in northern Wisconsin.

John Emerson, '99, resides in Joliet, Ill., where he is assistant chemist for the Joliet Steel Company.

Martin W. Torkelson, '04*e*, of Black River Falls has accepted an important position with the Interoceanic Railway Company, operating between Vera Cruz and the City of Mexico. During the summer Mr. Torkelson was in the reclama-

tion service of the U. S. Geological Survey.

Carl Hambuechen, '99*e*, and for some time instructor in bi-electric chemistry, has accepted a position with the Pittsburg Reduction Company, the leading American manufacturers of aluminum. Mr. Hambuechen has charge of the experimental work at the East St. Louis factory of the company.

Charles T. Hutson, '99, who is now residing at Connell, Wash., was chosen state senator in the late election.

C. A. Sidler, '99*l*, is practicing in Milwaukee.

J. L. Shaw, '99, is practicing law at Helena, Arkansas.

Walter S. Gannon, '97, '99*l*, is practicing in San Francisco, his office being located at 136 Phelan Bldg.

Mrs. F. V. Cornish, who was Miss Ellen Dobie, a graduate student in '99, resides in San Francisco at 3672 24th Street.

Miss Gerturde Anthony, '99, is teaching in Petaluma, Cal.

E. J. Cornish, some time a member of the class of '99, is practicing medicine in Lamoine, Cal.

Miss Bertha E. Chapman, '99, resides at Plainfield, Wis., where she is teaching this year.

Miss Laura H. Weld, '99, is teaching in Platteville, Wis.

Grant E. Pratt, '99, is principal of the Richland Center schools.

Mrs. J. A. Pease (Susan Odell, '99), resides in Minneapolis, at 2401 Pleasant Ave.

Myra W. Kimball, '99*b*, resides at her home, 420 S. Jefferson St., Green Bay.

Guy A. Meeker, '99, who subsequently graduated from the Harvard law school, is practicing at 532 Monadnock Bldg., Chicago, Ill. His residence address is 115 E. 48th St.

Miss Alma Stock, '99, resides at Elgin, Illinois. Her address is 442 Du Page Street.

W. C. Ruediger, '99, is professor of Methods and Supervisor of Training in the Department of Education of the Montana State Normal College of Dillon, Montana.

Charles G. Stangel, '99, is superintendent of schools at Sturgeon Bay.

'00

Miss Etta L. Huenkemeier, '00, of Freeport, Ill., visited her sister, Mrs. John A. Aylward of Madison, in the early Autumn.

Ernst Greverus, '00, is high school book agent for the firm of Henry Holt and Company, his permanent address being in care of that firm at 378 Wabash Ave., Chicago, Ill.

C. A. Vilas, '00, of Milwaukee, and Edward T. Fox, '00, of Chicago, were visitors at the Psi Upsilon house at the time of the Michigan game.

George Hardgrove, '00, is with A. W. Stevens & Co., dealers in threshing machinery in Madison. His address is 322 W. Wilson St.

Edward C. Waller, '96-'97, visited Madison for the Michigan-Wisconsin foot ball game. Mr. Waller will be remembered as a member of the famous '97 track team and high jumper who held the University record of 5ft. 11in. for several years. Next year after leaving Wisconsin, Mr. Waller went to Yale and established the Yale record of 6ft. 3in. in his first year there. He enlisted in 1898 as a member of President Roosevelt's regiment of rough riders and was wounded in the battle of San Juan Hill.

Fred M. Emerson, '00e, is in the contract department of the American Bridge Works, Milwaukee branch.

Sebastian Albrecht, '00, is a fellow in astronomy at the Lick Observatory at Mt. Hamilton, Cal.

George S. Cassels, '00, is studying medicine at the Milwaukee Medical College. During the past two years he taught physics and mathematics in the West Division High School of Milwaukee.

William B. Clark, '00, who, for the last three years has been superintendent of schools at Iron Belt, has entered the University of Michigan Law School.

Alfred K. Schultz, '00, spent the summer as chief of the Leith Exploration Party in Ontario, Canada. He will continue his geological research work at the University of Chicago, having received an

appointment to a fellowship in the department of geology. His address is 6019 Woodlawn Ave.

Robert G. Washburn, '00, has opened an office in Milwaukee for the practice of medicine. He graduated in June from the medical school of Johns Hopkins University.

John M. Niven, '00, who graduated from the University of Michigan Law school in '03, is an attorney in Milwaukee, with offices in the Free Press building.

Rev. Albert J. Macartney, '00, of Mount Jackson, Pennsylvania, is spending the year in study and travel in Scotland and England.

Dr. Frank E. Darling, '00, is connected with the health department of the city of Milwaukee.

Charles S. Pierce, '00, '02l, holds a responsible position with the B. J. Johnson Soap company of Milwaukee.

'01

A. A. Chamberlain, '99, '01l, who since his graduation has been practicing in Huron, S. D., was elected probate judge by a large majority. Mr. Chamberlain will be remembered as captain of the '00 foot ball team and a member of two preceding elevens.

John M. Kelley, '01l, is engaged in the practice of his profession at Baraboo.

M. J. Clearey, '01l, is practicing law at Blanchardville.

E. C. Meyer, '01, who has been in the U. S. Consular service in Germany for three years, visited Madison at the time of the Michigan game and addressed the big mass meeting on Thursday night before the contest.

Sidney H. Ball, '01, of Oak Park, Ill., who last year was instructor in geology in the University attended the Michigan-Wisconsin foot ball game. Mr. Ball at present holds a position in the U. S. Geological Survey and is located at Washington.

H. A. Gunderson, some time a member of '01, was chosen district attorney of Columbia county in the late election.

Miss Marie C. Kohler, '01, continues as

teacher of Latin and German in the Sheboygan high school.

T. M. Gannon, for some time a member of the class of '01, is a student in San Francisco. His address is 136 Phelan Bldg.

James B. Nash, '01, is with the Nekoosa Paper Company at Nekoosa, Wisconsin. His address is Grand Rapids, Wis.

William H. Doherty, some time a member of '01, is a sophomore in the medical department of the Milwaukee Medical College.

Earl Toogood, some time a member of '01, is manager of the Sequoia Drug Store, 800 Geary St., San Francisco, Cal.

Married at the residence of the bride's parents at Ames, Iowa, September 20th, Miss Jeanette B. Storms and John Edward Goodwin. Both were graduated with the class of '01. Mr. Goodwin is connected with the Library School in the State Library at Albany, New York. The home address of Mr. and Mrs. Goodwin is 67 Jay Street, Albany.

J. C. Stevens, '01, '03, is associated with the legal firm of Hunter & Goff, Wells building, Milwaukee. Mr. Stevens will be remembered as a member of the track team during most of his years in the University.

W. K. Parkinson, '01, now practicing at Phillips, is republican nominee for district attorney.

'02

Miss Helen Belknap Richard, '02, and Mr. Milton Berryman of Dodgeville were married at Grace church in Madison in October. Mr. and Mrs. Berryman will reside in Dodgeville where Mr. Berryman is engaged in the mercantile business.

Robert K. Coe, '02, who is now managing editor of the *Whitewater Register*, is a frequent visitor at Madison this year.

Miss Avis Hughes, '02, is teaching music in Fairmount, Ind.

Harry J. Mortensen, '02, who has been practicing at New Lisbon, was reelected district attorney for Juneau county.

Miss Merle S. Pickford, '02, is a teacher of history in the Eau Claire high school.

Mrs. Lovett West, formerly Miss Bessie Palmer, for some time a member of '02, visited in Madison on her return from a two year's residence in London. Mr. West has an important position with a leading electrical manufacturing firm of New York City and formerly represented the concern abroad but is now permanently located in New York.

William A. Smith, '02, '04, is practicing his profession in Neenah.

Miss Cora E. Meyer, '02, is teaching in Milwaukee this year. Miss Meyer resides at 95 17th St., Milwaukee.

Arthur J. Wyssman, '02, who graduated from the Harvard law in 1904, has gone to Seattle, Washington, to practice law.

Louis J. Paetow, '02, is at Boulder, Colorado, where he has a temporary appointment in the place of a professor of history who is away on a leave of absence. Mr. Paetow was appointed to a fellowship in history at the University of Pennsylvania for the current year.

Oliver B. Kohl, '02, is general manager of the La Comb Electric Co. at Denver, Col.

Philip L. Spooner, '02, will leave for Washington, D. C., tomorrow. Mr. Spooner goes to continue his work at the Corcoran School of Art.

Walter F. Mabbett, '02, is in the employ of the New York Central and Hudson River railway as a civil engineer.

Miss Esther Donnelly, '02, is teaching in the Waukesha high school.

C. Westergaard, '02, is taking graduate work in agriculture at the Agricultural College of North Dakota and will assist in teaching during a portion of the year.

Miss Maud Latta, '02, who has been teaching in northern Wisconsin since graduation, entered Byrn Mawr this fall for post-graduate work.

Miss Nellie C. Molstad, '02, of De Forest, is a teacher in the Shullsburg high school.

Miss Florence E. Weissert, '02, is librarian at Milwaukee-Downer College, Milwaukee.

'03

James Murray, '03, of Waupun, was an attorney in the case of Charles McCauley,

which has recently attracted considerable attention on account of the number of novel legal points involved.

Edward Thuerer, '03, is studying medicine at Rush Medical College this year.

A. W. Blackman, '03, is now in Oregon seeking a suitable place to establish himself in the practice of law. He may locate at Eureka, Cal.

Miss Elizabeth Joyce Hunter, '03, is spending the year at her home in Wauwatosa.

George Heller, Jr., '03, has established an office at Sheboygan.

C. O. Zimmerman, '03, who specialized in applied electro chemistry at the University, and is at present chemical engineer of the Nernst Lamp Company of Pittsburg, recently delivered an address before the society of chemical industry, one of the best known technical societies, on "Recent Developments of the Nernst Lamp."

Miss Julia M. Anderson, '03, of Racine, is teaching this year at Oconomowoc.

Miss Mary A. Stoppenbach, '03, resides at Jefferson.

Beach McGuire, '03, of Rockford, Ill., and H. Schuyler Van Orden, '03, of Baraboo, visited Madison for the Michigan-Wisconsin foot ball game.

E. Milo Mucklestone, '03, is practicing law at Waukesha, his home town.

Arnold L. Gessell, '03, who was last year principal of the high school of Chipewewa Falls, is pursuing advanced work in education at Clark University.

Mr. and Mrs. Wm. F. Lea (nee Mable Odell, '03) have removed from Vancouver, B. C., to Olympia, Wash.

Lawrence Liljeqvist, '03, who has held a position with the People's Theater Co., Chicago, has returned to the university to study law.

Louis A. Bauman, '03, and J. C. Davis, '03, have entered into a law partnership under the firm name of Bauman and Davis. They succeed by purchase to the practice of Frank A. Cady of Grand Rapids.

Miss Jessie M. Pelton, '03, is living in Burlington.

Miss Calista English, '03, who taught in

the Stoughton high school last year, is now assistant principal of the high school at Kenosha, her home city.

'04

Rev. A. L. Bresslich, '04, who is pastor of the German Methodist Church, of Madison, was recently married to Miss Lydia Filter of Milwaukee. The Rev. and Mrs. Bresslich reside at the parsonage on East Mifflin street.

Frank E. Woodruff, '04, is treasurer of the Three Lakes Lumber Company of Three Lakes, Wash. The company, which formerly operated in the neighborhood of Three Lakes, Wis., cut over all its holdings in the Badger state and last spring sought a new field. Before Mr. Woodruff came to college he was a student in the Rockford high school and a prominent athlete.

Harry J. Masters, '04, is located at Sparta where he is practicing law.

E. A. Mattke, '04, is teaching chemistry and military science in Dixon, Ill.

Gaius S. Woledge, '04, is a junior in the law school this year.

Harry W. Guipe, '04, is practicing in Milwaukee.

J. B. Blake, '04, is located at Winona, Minn.

Ralph B. Ellis, '04, is achieving considerable reputation as a newspaper cartoonist in Milwaukee.

C. T. Watson, '04, spent the summer at his home in Baraboo and is now engaged in railway construction work near Chicago.

Miss Mary H. Stevens, '04, is pursuing graduate work in the University this year.

Joseph R. Flint, '04, is managing the *Dunn County News*, published at Menomonie by his father.

Hudson B. Werder, '04, is located at Charles City, Iowa.

Miss Ethel Redfield, '04, of Racine, visited in Madison at the time of the Michigan-Wisconsin foot ball game.

Chauncey E. Blake, '04, resides in Rockford, Ill., where he is engaged in the practice of his profession.

D. G. Milbrath, '04, who is teaching history and biology in the Neillsville high

school, coached the high school foot ball team this year.

John A. McCormick, '04, is with Miller, Noyes & Miller, Milwaukee.

Hovhan Hagopian, '04, who was reported as being engaged in graduate study at Columbia University, has entered Harvard for graduate work. He resides in Chelsea, Mass., where his address is 138 Hawthorne St. Mr. Hagopian was the projector and one of the most active members of the International Club organized at the University last year, and is endeavoring to start a similar organization at Harvard.

L. W. Burdick, '04, resides at 1505 Windsor St., Columbia, Mo.

Albert F. Kindt, some time a member of the class of '04, has a position with Merle & Co., San Francisco. His residence address is 2343 Blake St.

Miss Lura Turner, '04, who is teaching at Columbus, will return to the University for graduate work next semester.

Don C. Holloway, '04, has secured a position in the engineering department in the Chicago Telephone company and is now residing at 1227 Addison Street, Chicago.

Miss Sophia Olmsted, '04, formerly of Boone, Iowa, is at present residing at Rockwell City, in the same state.

Ralph D. Brown, '04, of Rhinelander, Wis., is coast representative for the Brown Lumber Co., with headquarters at Seattle.

Miss Lucie N. Case, '04, was appointed assistant at the West Division high school, Milwaukee.

George R. Keachie, '04, of Madison, was recently awarded a contract by the state levee commission at Portage. The earth to be moved is estimated at 6,000 yards and the contract price is 12½ cents a yard. Mr. Keachie will hire a number of the Fairfield farmers to help him. The job is to be completed this fall, weather permitting.

William J. Crumpton, '04e, has been in St. Louis on the electrical test board of the World's Fair.

Miss Mæ J. Robinson, '04, of Sparta, is teaching Latin and German in the Medford high school.

Herman Beckenstrater, '04, who has been teaching agriculture in the schools of Waterford, Penn., has resigned his position there. The following article appeared in the *Waterford Leader* on October 20th: "Professor Beckenstrater of the agricultural department of the Waterford schools has resigned to accept a position at the head of the model farm in the Chicago schools. He will get a salary of \$1,500 a year. He is a graduate of the University of Wisconsin and came here in September." Mr. Beckenstrater's address is Pariental School, Chicago, Ill.

M. G. Hall, '04, is engineer for the Iowa Engineering company of Clinton, Iowa, and is at present superintending the construction of a sewage system at Laurel, Miss.

John S. Lord, '04, of Dixon, Illinois, who last year took work in the law school, is this year studying law at Harvard.

Farnum H. Hundson, '04, is teaching in Chicago.

Miss Winifred E. Hale, '04, is instructing in the Milwaukee-Downer College.

E. L. Barber, '04, has settled in Kansas City, Mo., where he is in the employ of the Metropolitan street railway company. His address is 506 W. 20th Street.

Members of the class of 1904, School of Commerce, who have replied to Dr. Scott's letter of inquiry as to their present business occupations, include the following:

Morris Fox is with the Nash Lumber Co. at Shanagolden in Ashland Co.

E. W. Hamilton is business manager of the Canadian Thresherman, a periodical published in Winnipeg.

Marshall Jackson is managing a branch of his father's paper business in Chicago.

C. H. Saucerman is in a bank at Monroe.

Henry Shields is employed in the traffic depot of the C. & N. W. R'y at Chicago.

E. J. Stevenson is agent for the Equitable Life Insurance Co. in southern Wisconsin.

G. E. Taylor is employed in his father's lumber business in La Crosse.

Arthur Thiede is with a banking firm in Chicago.

Book Reviews.

PRESIDENT VAN HISE'S TREATISE ON METAMORPHISM.

Readers of the Alumni Magazine will be interested in the recent publication by The United States Geological Survey of its Monograph XLVII, a quarto volume of 1,286 pages, entitled "A Treatise on Metamorphism," by President C. R. Van Hise. It is announced by the Survey as one of the most important publications it has issued, and is receiving much attention from reviewers and from geologists and mining engineers in general. President Van Hise's investigations of this subject have extended through twenty years and he has been engaged seven years in the actual writing of the present volume. Beginning in the early eighties with Professor Irving in mapping the folded, broken, and crystalline pre-Cambrian rocks of the Lake Superior region, where fossils are lacking and where stratigraphic studies must be subordinate to structural and metamorphic studies, he extended his observations to other parts of North America in which the rocks are of a similar nature. In 1896 he published his *Principles of North American pre-Cambrian Geology*, which immediately found use as a text-book on structural geology. In this volume are treated the general principles governing the mechanical behavior of rocks during deformation, and two general zones of the earth's crust are discriminated—an upper zone of fracture, in which rocks are deformed mainly by fracture, and a lower zone of flowage in which rocks, because of tremendous pressures there obtaining, are deformed mainly by rock flowage, that is, by change of form without conspicuous fracture. Following naturally from this study of the mechanical behavior of the earth's crust under deformation comes the investigation, described in the present volume, of its chemical and mineralogical behavior under the complex forces and agents which

have been and are acting upon it. For the first time the vastly abundant data concerning metamorphic rocks and processes, heretofore isolated, incomplete, and often contradictory, are grouped and explained under a few comparatively simple laws of physics and chemistry; in other words, are reduced to order under laws of energy. The essential argument of the volume is as follows:

It is observed that metamorphic rocks have certain definite characteristics for the upper zone of rock fracture and others for the lower zone of rock flowage. Inferring from the nature of the metamorphic rocks the processes which have produced them it appears that certain processes are characteristic of the upper zone and other processes are characteristic of the lower zone. It appears further that these processes come under surprisingly few heads—for the upper zone, hydration, oxidation, carbonation; for the lower zone, dehydration, deoxidation, silication. From this analysis it is evident that the processes of the upper zone are in general destructive, and result in the production of simple from more complex compounds, while those in the lower zone are essentially constructive, resulting in the production of more complex from simple compounds. To express this major classification of metamorphic changes the terms *metamorphism* and *anamorphism* are applied respectively to the upper and lower zones. The prefixes "kata" and "ana" are borrowed from biology and retain precisely the biological significance. "Katamorphism" thus means destructive metamorphism and "anamorphism" means constructive metamorphism. The zones of katamorphism and anamorphism correspond respectively with the zones of fracture and flowage. The zone of katamorphism is further divided, on the basis of difference in metamorphic changes less profound than between the two principal zones, and of degree rather than of

kind, into a belt of weathering, above the level of groundwater, and a belt of cementation, extending from the level of groundwater to the bottom of the belt of katamorphism. For the belt of weathering, carbonation is the most characteristic process; for the belt of cementation, hydration and cementation.

The above classification is based on observation and direct inference. It then becomes necessary to ascertain what factors determine the distinctive characteristics of the metamorphic rocks and processes of the zones of katamorphism and anamorphism. The first step is an analysis of conditions affecting chemical changes in general. The essential conditions are the materials available, temperature, and pressure (volume). The next step is to determine how these factors differ in their actions in the zones of katamorphism and anamorphism. The materials available are essentially the same in both zones, although varying in abundance, the principal difference being the relative abundance of carbon dioxide, oxygen and water in the upper zone. Temperature increases with depth, and the calculated increase in temperature tends, with few exceptions, to promote chemical changes. Pressure increases with depth and so far as pressure promotes chemical reactions its effectiveness is increased in depth. These variations in materials, temperature, and pressure adequately explain the differences in the metamorphic processes of the zones of katamorphism and anamorphism and the observed resulting differences in the metamorphic rocks. It is possible also to state specific laws of the relations of temperature, pressure, and substances available. In the zone of katamorphism chemical changes tend to occur which result in liberation of heat, usually accompanied by increase in volume. The increase in volume is possible because of the fracture spaces in this zone (zone of fracture). In the zone of anamorphism chemical changes occur which result in diminution of volume. This is necessary because the pressure in this zone (zone of flowage) is so great that no permanent openings can exist, and therefore there are no spaces

which can be filled by expansion of the rock. The chemical changes of this zone are accompanied either by liberation or absorption of heat. In other words, in the lower zone pressure controls, while in the upper zone temperature controls.

A considerable part of the Monograph is given to a discussion of the detailed chemical and mineralogical changes of minerals and rocks, and their classification under the general laws developed. The discussion of the redistribution of the elements of the earth's crust as a result of these changes constitutes an interesting chapter which may be easily grasped by the general reader.

Of most general interest, perhaps, is the discussion of the relations of metamorphism to ore deposits. It is shown that the concentration of what is considered to be by far the largest and most important class of ore deposits is a mere incident in the grand shifting and segregation of materials of the earth which is constantly going on under the physical-chemical laws above noted. Here and there certain substances which happen to be of commercial importance to man become segregated. Physical-chemical laws, worked out for metamorphic changes in general and therefore firmly based, are applicable also to ore deposits, rather than special laws which have sometimes been thought to be applicable to ore deposits alone. The chemical changes resulting in their segregation are brought about mainly through the agency of water, and as the circulation of water becomes less vigorous below and practically ends with the zone of fracture, it is believed that ore deposits are likely to die out below in a similar manner. The waters can be shown to be essentially of meteoric origin and hence to derive materials largely from the upper zone of katamorphism. It is shown that waters are likely to perform a different class of work upon coming directly from the surface from that done after a long underground journey during which the materials carried from the surface, particularly oxygen and carbon dioxide, have been depleted. The nature of the ores concentrated by these two classes of waters varies accord-

ingly. The differences are characteristic and uniform. It is concluded that some ore deposits are developed by the deep-moving circulations and others are developed by the circulation more directly from the surface, but that the great majority of them result from the combination of these circulations either simultaneously or through successive geologic periods.

The chapter on the deposition of ore has previously appeared in part in a preliminary publication in the Transactions of the American Institute of Mining Engineers, and has been widely discussed and accepted. It has the principal place in a special volume on the theory of ore deposition recently published by the Institute.

The Treatise on Metamorphism sketches the subject only in its barest outlines, yet it fixes the major guide lines for future investigation and development. Few investigations in recent years have opened fields so broad and attractive for research. The

subject for the first time also becomes sufficiently systematized to be taught. It is certain that the principles of metamorphism here outlined will soon find their way into geological text-books as the principles of structural geology have before them.

President Van Hise's geological investigations for the past twenty years, including those on which the present volume is based, have been made in considerable part with the ultimate purpose of publishing a general physical and chemical history of North America, and part of his writings, including the present monograph, are in the nature of preliminary publications of portions of this contemplated whole. The present volume is the last of the preliminary publications. Geologists hope that nothing will interfere with the completion of the monumental task which President Van Hise has laid out for himself.

C. K. LEITH, '97.

Athletics.

The final game with Chicago on Thanksgiving Day resulted in altogether the best showing of the year. Chicago beat Wisconsin 18—11, but the varsity's two touch-downs were earned by hard straight foot ball, which was true of only one of Chicago's. The Maroons' second score came as the result of a fumble by Wisconsin on its own fifteen yard line, the ball dropping squarely into the arms of a Chicago player, De Tray, who was at the time moving toward Wisconsin's goal. The other Chicago touch-down was, of course, earned, and was a superb piece of individual play by Eckersall, but a run of 105 yards from the kick-off to a touch-down always strikes the average spectator as a little less meritorious than a score earned by straight, hard plugging. Personally, it seems to me that there is too much of a tendency to discredit plays of this character, all of which count just as much in the final result. If a team possess an individual player who is

liable at any time to break away and get through a scattered field for fifty or sixty yards, the moral effect upon that team's opponents is sure to be marked. A team that is playing against such a man must constantly be on the lookout and this, in a measure, engages the attention of its members and necessarily takes something from their straight game. When Pat O'Dea was playing on the Wisconsin team there was always a tendency to discredit his superb kicking as individual work. No greater mistake could have been made, because when O'Dea was at his best Wisconsin's game was built up around him and he would have been largely useless if he had not had a line in front of him that could hold for his kicks and which, by its defense, could retain the ground which he gained on every exchange of punts. In the same way with a player like Eckersall, Chicago is entitled for developing its game to make the greatest use of his kicking and

open field running, though, of course, this particular run of his from the kick-off was not the result of any preconceived plan. Chicago's first touch-down was decidedly "fluky," as Wisconsin had twice held the Maroons inside the five yard line and on the third attempt stopped De Tray so hard that he dropped the ball, which Bezdek secured on the fumble and carried over the line in the extreme corner of the field. If De Tray had not fumbled, Chicago would have lost the ball on downs as the play was already stopped.

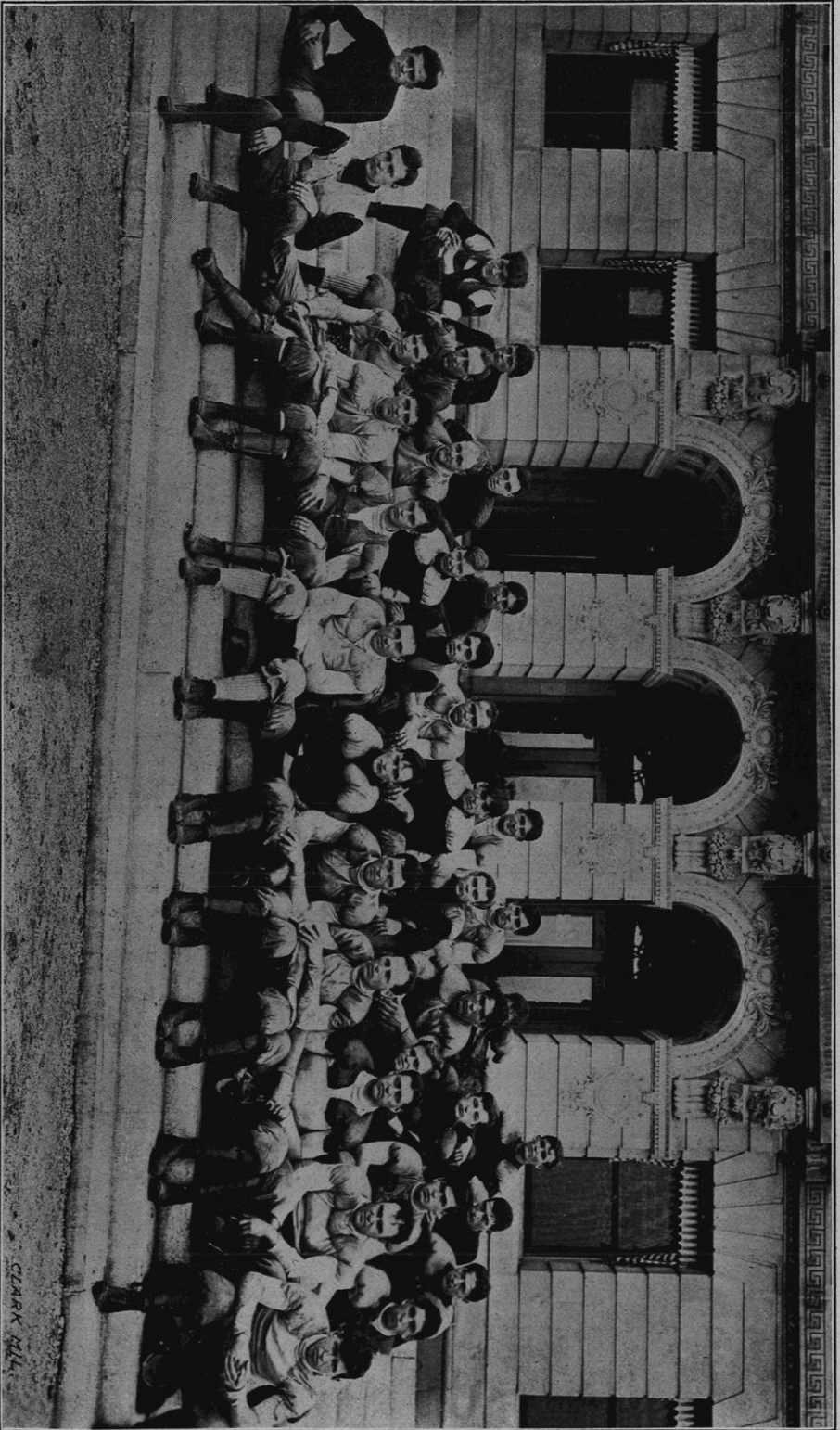
Most of the credit for Wisconsin's improved showing must be given to the members of the team who went into the game actuated by a determination and spirit which had not been approached at any previous time during the season. They knew that it was their last chance to make a showing and it was the old case of "Do or die. The game played on Thanksgiving Day was characterized by a determination which has rarely been surpassed in the history of Wisconsin foot ball. Contrary to the explanation most generally given of the improved showing of the team in this game, I do not believe that it was due primarily to any new play or tactics, although the team did have a shift play which had not been previously used. This play consisted in swinging all the heavy men to one side of the line and sending the plays over the strengthened side, Vanderboom, Schneider and Stromquist carrying the ball in a tandem formation. This shift had not been previously used by Wisconsin, but had been in Minnesota's repertoire and has been used during recent years by almost every leading team in the West in one form or another. The assumption that it was novel to Chicago is hardly a sufficient explanation of the victory. Indeed, in the second half when the varsity was equally successful in advancing the ball, the play was used very little. It was the fighting spirit of the men, not the tactics used, that enabled Wisconsin to make the showing which it did. The one spot at which Chicago directed most of its plays and made most of its gains was Wisconsin's right tackle, and no less than seven men were used in this position in the course of the game.

Wisconsin won the toss and Capt. Bush chose the north goal with its advantage of a stiff wind blowing down the field. Tobin kicked off for Chicago to Findlay, who was stopped on Wisconsin's thirty yard line. Melzner tested Chicago's defense by sending Stromquist and then Vanderboom into the line, but they could hammer out only three yards. This forced a kick and Schneider punted the ball out of bounds at Chicago's forty-seven yard line. On the first play Spiedel shot through Wisconsin's left side for ten yards, but dropped the ball and Wisconsin recovered it at the center of the field.

Again Stromquist and Vanderboom were hurled at the Maroon line, the former making a yard and the latter three more off Kennedy's end, but Wisconsin was penalized fifteen yards for holding, and after one more attempt Schneider punted. Umpire Snow caught Speik holding Bush and the ball was called back and given to Wisconsin on its fifty-three yard line.

Then for the first time the varsity offense began to gain. Schneider got past Speik's end for six yards, Vanderboom smashed the middle line without avail, then gained six yards off right tackle. Schneider passed Speik for fifteen yards, taking the play close to Chicago's twenty-five yard line. Two smashes off tackle cut down the distance to Chicago's goal by five yards. Then Capt. Speik and Tobin hurled back two attacks at their end. Melzner tried a drop kick for goal from the twenty-eight yard line, but failed.

Eckersall punted out to Melzner, who was downed on Chicago's forty-two yard line. Two attempts failed to drive Chicago back, then Melzner attempted another drop kick, this time from the fifty yard line falling short. Eckersall was downed with it on Chicago's seventeen yard line. De Tray failed to gain and Bezdek made only two yards on a plunge at center, forcing another punt. Eckersall kicked poorly, sending the ball high into the wind, and Wisconsin got the ball on the Maroon twenty yard line. Schneider tore off two yards, Vanderboom crashed past right end for two more, and Stromquist bucked the line for the necessary yard. Schneider in



THE 1904 FOOT BALL SQUAD.

CLARK HILL.

two attempts again made the distance and the ball was only ten yards from the goal. Stromquist hurdled for a yard, Vanderboom by a fake interference eluded Speik for five yards, then Stromquist broke through center for the touchdown. Captain Bush missed goal. Score: Wisconsin, 5; Chicago, 0.

Tobin kicked off for Chicago and Stromquist ran the ball back from behind his own goal line to Wisconsin's seventeen yard line. Vanderboom smashed the line for a yard and Schneider crashed past Kennedy for three. On the next play Bertke was offside, penalizing Wisconsin five yards, and Schneider was forced to punt, the kick going out of bounds at Wisconsin's twenty-six yard line. Speidell tried right tackle for three yards, but Chicago lost five yards for offside play, and Eckersall tried a quarter back run which failed to make up the loss. He then attempted a drop kick from the thirty yard line and failed, the ball going wide of the mark.

Eckersall fumbled Schneider's punt out, but saved the ball on the middle line. Speidell was then hurled alternately at right and left tackle repeatedly and, practically unaided, carried the ball in short gains to Wisconsin's thirty-seven yard line, where it was surrendered on downs. Wisconsin could not gain and Schneider punted, Eckersall being thrown back by Bush to Chicago's forty-five yard line. Speidell crashed between right guard and tackle for eight yards, Bezdek on a delayed pass made three yards, but the next two attacks netted only a yard apiece, and Eckersall resorted to a quarter back run. He was thrown for a loss by Bush.

Speidell hit right tackle for five yards, but it was not enough to make the distance, and Eckersall punted, Kennedy throwing Melzner in his tracks on the Badger twelve yard line. Wisconsin made its distance once, then Schneider had to punt, and Eckersall was stopped at Wisconsin's fifty-two yard line. From there the Maroons marched straight to the goal for their first score, but they had hard work. Eckersall sent almost everything at the Badger right wing. Speidell made ten

yards there in two gains, and Brindley went in to replace St. Germaine.

Two line plunges by De Tray gained four yards and Speidell made one. Then De Tray broke through Brindley for eleven yards. Speidell hit the same spot for three, De Tray tried the other tackle and gained three yards. Bezdek was stopped at center. Again Speidell was shot at right tackle and made his distance in two drives. Here Wisconsin lost five yards for offside play. Bezdek bucked the line fruitlessly and De Tray was downed by Findlay on a cross buck for no gain. On the third down Speidell was held but fumbled. Bezdek snatched up the ball and carried it over the extreme corner. Eckersall heeled the puntout and Kennedy kicked a clean goal, making the score Chicago, 6; Wisconsin, 5.

The half ended soon after the kickoff with the ball in Chicago's possession on its own thirty yard line.

Melzner kicked off for the second half to Eckersall, who was downed on his fifteen yard line. Speidell resumed his attack on right tackle and tore through for ten yards in two attempts. De Tray made two at Bush's end and Bezdek butted the line for one yard, then Speidell hit Brindley for four yards more. The next attempt failed, and Catlin was substituted for Speidell. Eckersall punted, but the kick was blocked squarely, and Wisconsin secured possession of it at Chicago's eighteen yard line. Chicago, however, soon held and Melzner tried a drop kick from the twenty-four yard line. He kicked low and missed.

Eckersall punted out to Findlay, who carried the ball to Chicago's fifty-three yard line, but two bucks by Vanderboom netted nothing, so Schneider punted, Eckersall getting the ball on his twenty-three yard line and being dropped there. Catlin on the first down went between right tackle and end, for a thirty-yard run, being stopped by Melzner. Hunt replaced Brindley.

Chicago could not keep the ball going, and Eckersall punted. On a buck at center Bertke fumbled and the ball bounded squarely into De Tray's hands. Quick as a flash he shot past the piled up mass, and

touched the ball down behind the goal posts. Kennedy kicked goal, raising the score to Chicago 12, Wisconsin 5.

The most spectacular play of the game followed Wisconsin's kickoff. Taking the ball just back of his own five yard line Eckersall ran almost the length of the field through the entire Wisconsin team for a touchdown. Kennedy kicked goal and the score was 18 to 5.

Fleischer replaced Hunt, and Melzner kicked off to Speik, who was stopped at Chicago's forty-five yard line. Wisconsin was penalized for offside play, but, after two failures to gain, Eckersall had to resort to a fake kick to make the distance, and it just reached. Bezdek smashed right tackle for five yards, Kinney went and Fleischer was moved in to right guard in O'Brien's place. Two downs gained nothing, and Eckersall punted, giving the ball to Wisconsin at its thirteen yard line. Short gains netted one first down, but another could not be made, and Fleischer punted to Eckersall at Chicago's forty-seven yard line.

After an exchange of punts, Wisconsin braced handsomely. Hopelessly beaten they fairly played the Maroons off their feet for the next few minutes. Stromquist burst through the line for ten yards and Schneider crashed past Tobin for ten more. Stromquist and Schneider plunged into the line again and again for short gains, driving the Maroons back into their own territory. Stagg sent Noll into the line in Hill's place and he stopped one play. Then Chicago lost five yards for offside play and on the next formation Vanderboom broke loose between Speik and Tobin for a dash of thirty-eight yards, which carried him just across the goal line, although he was tackled from behind an instant too late.

Bush kicked goal, making the score Chicago 18, Wisconsin 11, where it stopped. With a similar spirit the varsity, after Chicago had pounded through half the length of the field, held within their five yard line, just at the close of the game, enabling Fleischer to punt sixty yards out of danger, just before the whistle blew. The line up was:

Chicago [18].

R. E.	Kennedy
R. T.	Boone
R. G.	Badenoch
C.	Gale
L. G.	Tobin, Noll
L. T.	Hill, Tobin
L. E.	Speik [captain]
Q. B.	Eckersall
R. H. B.	Speidell, Catlin
L. H. B.	De Tray
F. B.	Bezdek, Walker

Wisconsin [11].

L. E.	Findlay
L. T.	Bertke
L. G.	Donovan
C.	Remp
R. G.	O'Brien, Fleischer
R. T.	St. Germaine, Brindley, Hunt, Fleischer, Kinney, Perry, Gelbach
R. E.	Bush [captain]
Q. B.	Melzner
L. H. B.	Vanderboom
R. H. B.	Schneider
F. B.	Stromquist
Touchdowns—Stromquist, Bezdek, De Tray, Eckersall, Vanderboom. Goals—Kennedy [3], Bush. Referee—Walbridge, Lafayette. Umpire—Snow, Michigan. Linesmen—Lerum, Wisconsin, and Henry, Yale. Timeskeepers—Reardon, Wisconsin, and Raycroft, Chicago. Time of halves—35 minutes. Attendance—15,000.	