The Technology Review

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AN APPRENTICESHIP FOR BUSINESS RESPONSIBILITY

From infancy up to the time when the young man leaves his books and teachers to go out into the world his mental development is accomplished by gradual steps which are carefully gauged with reference to his possibilities for assimilation and his growing experience.

The kindergarten prepares him for his first competitive relations with his fellows, and gives him a knowledge of elementary principles which would otherwise be acquired only through tribulation; but, when he has passed a decade with no real responsibility, and has been measuring himself with children, school-boys, and college mates, judging himself by their standards and gauging the realities of life by their ideals, he is unceremoniously set afloat on the turbulent waters, with compass and charts it is true, but with no practical idea of how to allow for leeway or tidal currents. And so we see the boats diverge, some to strike the rocks, some to circle about aimlessly, never to reach port, and some few borne by favoring elements to the haven of their desire.

It is apparently assumed that an Institute student, with his equipment for practical work, is better fitted for this crisis than his college brother. Is he not an engineer? Has he not had the benefits of strenuous study and labo-

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ratory work? Is he not used to drudgery and obedience to orders? All that is true, and in it lies the greater danger, for he is inclined to accept the drudgery as his whole duty; and, following his analytical training, he looks down and into rather than up and out. The fog is about him, his eye is on chart and compass, and he is oblivious to the echo from a threatening cliff directly in his course, simply because he is too absorbed in theory to use one of his common senses.

The plea I have to make is for a collateral preparation for practical things during student life as a part of the curriculum, which shall supplement the work in the classroom and laboratory and serve to adjust and balance, by enough practical responsibility to germinate the young man's judgment. I am persuaded that nothing can accomplish this except actual experience, but I am also persuaded that this actual experience can be had at the Institute of Technology with little loss of any valuable thing, and with an immense gain in the preparedness of the graduate to grasp the problems before him.

The idea of committee work in most of our larger and in many of our small industrial institutions is spreading rapidly because it has accomplished remarkable results when properly carried out. At the Institute the *Tech*, *Technique*, the Athletic Association, etc., are conducted by student committees, and are probably much better handled than if the Institute were responsible for them. These are called student activities; but is there any reason why student committees cannot be made useful, under competent direction, in conducting some of the material affairs of an educational institution, where the benefits would not only redound to the individual students, but also to the institution itself?

The men who become identified with these student ac-

tivities gain something of the experience I have referred to, because they are dealing with real business problems, and they get some idea of the value of organization as well as some experience in management, of the greatest importance to them in after-life. On the other hand, their view is confined to one particular direction, that in which they are immediately occupied, and these extra duties, which usually come in the Junior or Senior years, are almost too great to be undertaken in connection with their regular work.

What I would like to see accomplished is a consistent scheme of committee work which shall have a place on the tabular view, and which shall bring as large a number of men as possible within its influence, giving the students definite responsibility by placing the administration of the Institute's material affairs in the hands of a student democracy, the real control to be tactfully exercised by a resident engineer, who would thus be the head of one of the Institute's most important departments. The scheme I have to suggest may appear complex and somewhat revolutionary. When analyzed, however, it is nothing more than a division of details among committees, devoting a very small amount of time to a feature of education which will result in wonderfully broadening the men who come within its range and in giving every man in the student body a general idea of the value of business organization.

As I have indicated, the whole matter is to be in charge of a carefully selected resident engineer, in whom all responsibility and authority will be vested; the student body to be organized on the general plan of a large industrial corporation, with a Board of Directors chosen from the Junior and Senior Classes, and including the resident engineer. Under this executive body the administrative department will be headed by a general manager, either a Junior or a

Senior, manager of buildings, manager of grounds, manager of athletics, manager of printing and publications, manager of student government, manager of operation and maintenance, etc. Under the manager of buildings will be manager of Building A, manager of Building B, etc., covering all the buildings within control of the Institute. There would also be sub-managers for each of the other departments, and an extension of the scheme to its limit would give the men some idea of general management, division of authority, relations of departments, theory of costs, inspection of material, and discipline. In fact, it would lead, more or less fully, into the various lines which are essential to the supplementary education of an engineer.

Although I have said that the real control would be vested in the head of the department, the resident engineer, I would have his guiding hand rest as lightly on the helm as possible. Inasmuch as all important matters would come before the Board of Directors of which he is a member, and as the deliberations are secret, it would be possible for him to direct diplomatically all action in that body as far as it was necessary for him to do so; but the student organization need not know how great or how little this influence is. The Board of Directors would stand for the centre of government, and the responsibilities of every unit in the organization would be real responsibilities. The less important positions would be given over to the Sophomores and perhaps some Freshmen. They would have a very limited amount of authority to do certain small things, and it would be obligatory upon them to see that these matters are attended to. Beyond a certain amount of expenditure or beyond a definite routine the manager of the department would be consulted. In cases more important the action of the General Manager would be necessary, and, where his au-

thority was not sufficient, the Board of Directors would take action. Every order, however, would go through the resident engineer's office, so that the actions of each individual member of this body would be under his observation and control.

To carry out the matter still further and give more interest to the men, I would have two political parties, say the cardinals and the grays, the divisions to be made between courses or in some other way by the Board of Directors; each party to have caucuses and make nominations, say two or three nominations for each office to be filled, the Board of Directors to choose from these nominees, one candidate on each side for each position. In this case a Faculty Committee in connection with the resident engineer would probably make the real selection. It is understood, however, that the party divisions would change at each election period, so that no permanent competition would be established between particular courses or classes of students.

The nominations being made, each party would have a mass meeting on different days. The men nominated for the higher positions would probably have served in minor offices by way of preparation. Their administration of these offices would be public, and the reasons for or against their election would be the subject of free and open discussion. It is reasonable to suppose that the men finally elected would be suitable representatives for the various positions.

If this plan is properly carried out, the division of work assigned to each student can be increased or diminished as he is able to take it on. There would not be the same burden that rests on the managing editor of the *Tech* or on other men now at the head of student activities. It would probably be well to include the Dean as a member of the Board of Directors, and before action is taken by the Board some

of the propositions should be taken before a Faculty Committee by the Dean and the resident engineer.

It would be necessary for the Board of Directors to meet regularly, say once or twice a week. The General Manager should meet with his cabinet once a week. The managers of different departments should meet with their submanagers once or twice a week. There would be a general meeting of the entire organization once a month, or perhaps oftener, and perhaps twice during the term there should be a general mass meeting, when the Board of Directors would make a report to its constituents.

The doings of the various officers would be chronicled in a daily bulletin, so that the work of the organization would be constantly before every student. This of itself would be something of an education.

The cost of running the institution would be a matter for first consideration. This would lead to the general study of costs, which is of vital importance and which does not appear to have sufficient consideration at the present time. Lectures on this subject by various experts in different lines would be welcomed and studied with enthusiasm. Prominent officials of large corporations would be glad to talk to appreciative students about the business in which they are interested. It would bring the men in direct touch with the active minds of the industrial world, and they would have an opportunity to study the latest developments in this broad field.

It seems obvious that such a plan would enlist the interest of the alumni, and many valuable suggestions and much assistance would come from that source.

It would be useless to attempt to carry out this work without the hearty enthusiasm of the students themselves. That this would be insured I have no doubt, because of the

nature of the competition and the variety of fields of attraction. It is also to be considered that the men who have shown skill and ability in the higher offices of this student democracy would be marked men, and after graduation they would be sought for by employers all over the country. This would create the highest incentive, and would be conducive to scholarship as well, because certain qualifications of scholarship would be essential in order to hold office. By this I do not mean that scholarship should be alone considered. Men should be chosen for their ability to administer affairs of the institution with success. Nevertheless, scholarship would be an important item, and I cannot see why the carrying out of this proposed plan would not be beneficial to scholarship.

Another feature of this plan would be the advertising which would naturally follow, because the experiment would be of public interest and would attempt to fill a lack which is universally recognized. It would enlist the interest of wealthy manufacturers and others who would be attracted by the plan, and who would not only willingly offer the benefit of their own experience, but would provide means for properly carrying it out. I further think that the carrying out of this plan would instil into the student body a sustaining enthusiasm that would spring from the very love of the work itself,—not the work of the student committees or any feature of it, but the work of the Institute itself as a grand, well-rounded whole.

I. W. Litchfield, '85.

THE STANDARDS TO BE PLACED BEFORE THE YOUNG ENGINEER*

A major reason for the ineffectiveness of much of our public schooling is that teachers and pupils have their eyes and thoughts fixed, not upon the real purpose of education, but upon the examination of next week or the promotion of next June. The school and its processes become to them, therefore, ends in themselves. The petty lessons which they teach and learn obscure the broad objects of teaching and of learning, and the walls of the school-room limit their educational horizon. To neither such teachers nor such pupils is it ever revealed that schooling is but a minor means to the true end of education, which is, of course, physical, mental, moral, and therefore social, efficiency.

The students in a school of applied science have a wider view than this; but in most cases it is an outlook far too narrow. They are aiming, it is true, towards the goal of a professional career; but they usually see in that future profession, not an opportunity for social usefulness, not the happiness which is reached through efficiency, not the unselfish devotion of (for example) the "born" physician: they anticipate, on the contrary, merely the power, the money and the ultimate ease which professional success may bring. Therefore, few undergraduates study the subjects in the curriculum because they care for them or because they grasp the relation between those topics and the social organism. They pursue them simply because those subjects must be overleaped—like obstacles in a hurdle-race—

*Read at the annual meeting of the Association for the Promotion of Engineering Education at Ithaca, N.Y., July 3, 1906.

by the irksome process called examination, in order to secure a degree. The degree itself they look upon as an end worth working for, since its possession means, usually, a remunerative "job," which will lead to others, bringing in, eventually, an income adequate to the multitudinous expenditures of modern life.

Were this the attitude of mind of technological students alone, it might justify—or at least explain—the sometimes supercilious attitude of the college of "liberal arts," and might support its contention that its atmosphere is broadly cultural, while that of the college of science is narrowly utilitarian. Under modern conditions, however, the outlook of all collegians is practically the same; for, however fondly the older institutions may cling to outworn forms and terms, however prominently the "humanities" may stand out in their prospectuses, they also are, in truth, colleges of modern science and of the application of science to commercial and industrial life. The cloistered student wrapped in love of ancient learning is still to be found; but he is engulfed in the host of youth who, when they do not go to college simply for sociability and prestige, regard higher education as a kind of trump card in the game of money-making.

More or less unconsciously, colleges of arts and colleges of science alike foster this student attitude of mind by devoting an undue share of the academic year to examinations, by overloading the curriculum with examinable subjects, and by permitting the several schools or departments to emphasize the utilitarian by specializing and intensifying too much. As a result, the secondary purpose of a college—that of instilling information—too often bulks largest in the eyes of all concerned, and obscures or even eclipses the leading aims of all collegiate education.

Those major aims should be, in the order of their importance: (1) to develop manhood out of boyhood; (2) to make the men thus developed broad-gauged, mentally quick and receptive, intellectually catholic, tolerant and modest; (3) to train good citizens, in the fullest meaning of that term; and (4) to equip for industrial and professional efficiency. To accomplish the last is what the technological school is paid especially to do; but, unless that professional training is given in such a way as to supplement and strengthen in the highest degree all the other social forces which are making for manhood, breadth and citizenship, the school has defrauded the undergraduate, has failed of its duty as a social agent and has sealed its own doom.

Even though they be nineteen or twenty years of age, most youth come to a college mere boys in their childish attitude of mind, their undeveloped sense of personal responsibility, their hazy outlook upon life and their distorted perspective of themselves in the community. They ought to be graduated, however, with their minds ripened and their vision cleared. Indeed, the years of their college life will have been largely wasted unless, in those years, they have acquired a mental and moral seriousness far greater than that of the less well-educated man.

Limiting ourselves to the school of applied science, perhaps its paramount duty and opportunity is to impress upon a youth as he enters manhood the fact that living, instead of being a game of pleasure or of chance, or a haphazard acceptance of what comes along, is an actual profession,—is, indeed, the leading vocation of every man,—a profession to be studied, perfected and strategically planned with interested thoroughness and far-seeing care. This right view of life can be instilled, not only by giving the college youth ever wider choice of work, initiative in working and responsi-

bility for the quality of his work (while holding him to a rational and ordered sequence of development), but also by teaching him such things and in such a way as to make him increasingly aware of a man's power over circumstance, and of the multiform opportunity which every individual has to shape his own career.

Another chief use of the education given in a scientific school should be to expand a young man's vision, to teach him the difference between the small and the great things of life, to train him to see the world from a clear mountain peak of intellectual tolerance rather than from a foggy valley of personal prejudices. This breadth and catholicity can be inspired by building all his professional and technical training upon basic truths and principles; by framing his courses of study upon those fundamental historical, philosophical and linguistic subjects which (quite too exclusively) made up the college course of half a century ago; and, most of all, by seeking every opportunity to impress upon each student the fact that what makes for leadership and power in professional life is not familiarity with technical details and an extraordinary memory for formulas, but ability to view questions in a large way, to deal with new problems, to handle subordinates easily and justly, to meet equals and superiors tactfully and upon the broad platform of many human as well as professional interests.

A student will not have secured seriousness and breadth, however, if on graduation he believes that his professional training is to be used wholly to satisfy his personal—and very proper—ambition for power and for wealth. He must also have been made to realize that, being an extraordinary debtor to society, he owes an immense debt of future service to the community. He should also have learned that the main business of an educated man is to grow into wide use-

fulness by practising the "gregarious" virtues, by placing his abilities as far as possible at the service of his neighborhood and State, by increasing the five talents of his collegiate training into the many times ten talents of personal and social power. To this end his technical and his non-technical teaching should have emphasized those subtle, unselfish, moral qualities which lie at the foundation of professional ethics, engineering honor and true devotion to the good of the State.

Whatever may be the sequence of studies, the ramification of "electives," or the emphasis upon this detail or upon that, the student should never be allowed to become so confused by these minutiæ as to lose sight of what he goes to a school of applied science for. In the student's own mind he goes primarily to obtain certain information, a measure of technical skill and a scientific jargon which will enable him to secure and to hold some remunerative professional position. If this mental attitude is not rectified, or is encouraged by the placing of too much emphasis upon technical information, "knacks," formulæ and phrases, the youth will devote himself zealously, even enthusiastically,—but none the less fatally,—to things which, without the higher aims, are but the chaff of education. The strongest evidence of a Freshman's lack of education is that he does not know how to appraise those tasks which he must or may do, that he does not understand what the world is going to demand of him as the price of real professional success.

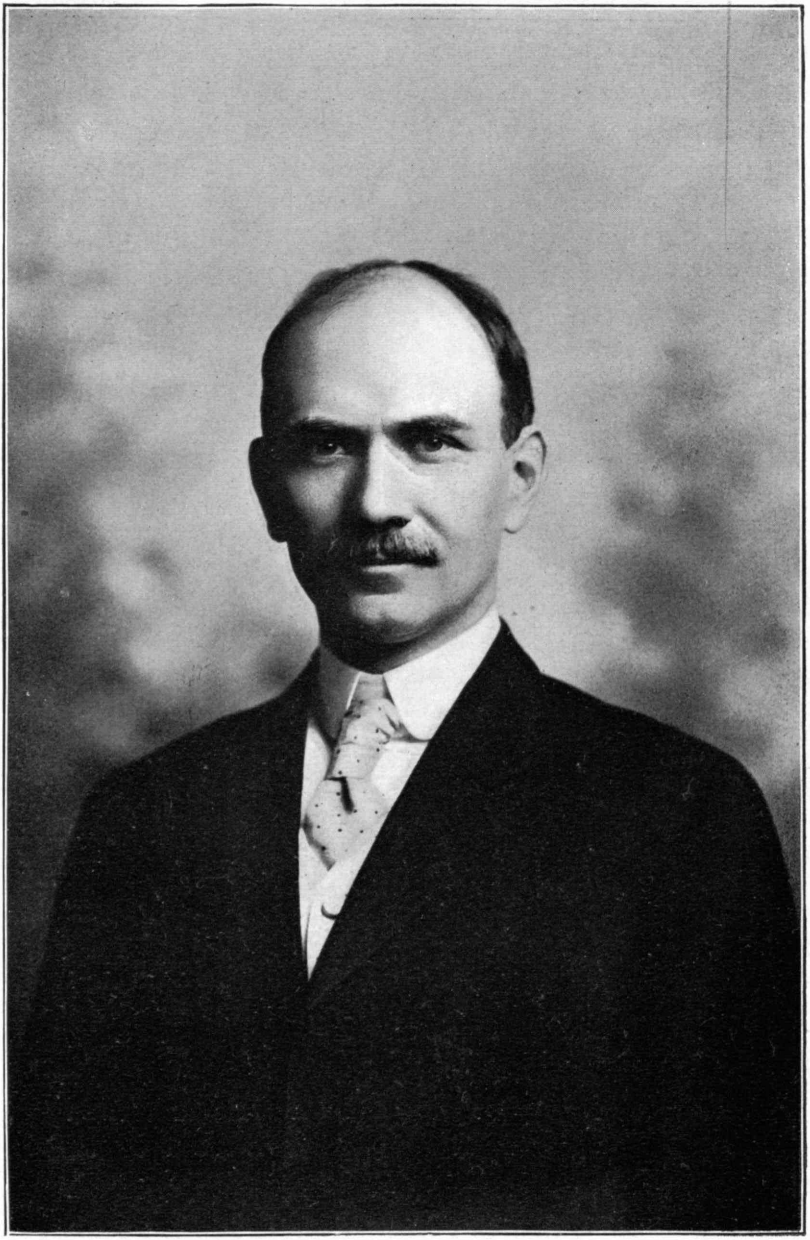
To educate him, therefore,—in the right meaning of education—the school of applied science must not content itself with giving him that technical information which, to his untrained vision, is all that he requires; it must hold before him and must teach him to understand the value and importance of those higher standards by which his work as

a man and as an engineer will be judged by his future employers, by his associates and by the world at large. He cannot foresee, therefore he must deliberately be made to appreciate, that behind and underneath his technical information and scientific skill he should possess at least three other things: seriousness of view, breadth of mind and a sense of civic responsibility. With the first he will learn how to measure and control his own life; with the second he will learn how to weigh the lives of others; with the third he will learn how to place himself and all he does into right perspective with the whole order of society; and with all three together he will be ready to meet and conquer practically every one of those problems, moral, social, or technical, with which his life is certain to be filled.

To keep these large purposes and true aims of education before themselves and their students is extremely difficult for the teaching staff, engrossed as they must necessarily be in the thousand details of teaching and discipline, and hounded as they are from without and within to equip their students (like automobiles) with every latest device for technical speed and efficiency. That the faculties of most schools of technology have been able to preserve the wider view is cause for wonder and congratulation. With the greater specialization and haste of modern life, however, they will find this to be increasingly difficult unless they receive organized and unflagging help from those who stand far enough from the details of instruction to see that teaching in proper perspective and to measure its real results. The two bodies near enough to the school of applied science to understand its internal methods and aims, and yet far enough away from it to gauge its final influence upon young men and its ultimate effect upon the industrial and social structure, are, of course, the Trustees and the alumni. In every

way possible they should identify themselves with their college and its undergraduates; and, while refraining from interference with the details of courses or of teaching, should keep clearly before the students those real aims and ends of all higher education which their experience of life should have made them clearly see. Just how they are to do this is not within the present scope even to suggest. Moreover, no two colleges of science would approach the problem in the same way. But that these high standards must be held before the undergraduates of all such colleges, and that the Trustees and alumni must give conspicuous help in doing so, are, I think, self-evident truths in higher education.

JAMES PHINNEY MUNROE, '82.



PROFESSOR DUGALD C. JACKSON

DUGALD C. JACKSON

Professor Dugald C. Jackson, of the University of Wisconsin and head of the Electrical Engineering Department, has just been elected to the place of Professor of Electrical Engineering and head of the Electrical Engineering Department in the Massachusetts Institute of Technology, as the successor of Dr. Louis Duncan, who resigned about a year and a half ago.

Professor Jackson comes to the Institute with a very creditable career behind him. Born of Quaker stock at Kennett Square, Chester County, Pennsylvania, Feb. 13, 1865, he was fitted at the Hill School, Pottstown, Pa., for the Pennsylvania State College, from which he was graduated in the civil engineering course in 1885. He was fellow and instructor in electrical engineering at Cornell University for two years. He joined the University of Wisconsin Faculty in the autumn of 1891, upon the establishment of the department of electrical engineering, as Professor of Electrical Engineering and head of the department. He organized the course in electrical engineering, and taught various branches pertaining thereto, but has made a specialty for several years of alternating currents and alternating current machinery, and of central station practice. Under his administration there has grown up in the University of Wisconsin one of the strongest schools of electrical engineering in the country.

Professor Jackson has also combined in a very admirable way practice of his profession with the work of the teacher, having served as consulting engineer and expert in many

large pieces of important engineering work. He is the senior member of the firm of D. C. & William B. Jackson, who do a considerable business in the West as consulting engineers.

He has published the following books: "Text Book on Electromagnetism and the Construction of Dynamos" (1893); "Electricity and Magnetism" (1895); "Alternating Currents and Alternating Current Machinery," joint author (1896); "An Elementary Book on Electricity and Magnetism," joint author (1902). He has in preparation a book on Central Station Practice, and a completely rewritten edition of the before-mentioned book on Alternating Currents and Alternating Current Machinery. He has delivered numerous addresses, and has written articles on matters relating to engineering practice or engineering education, which have been printed in the Transactions of engineering or educational societies and various technical journals. He is a member of the American Institute of Electrical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, Western Society of Engineers (now vice-president), Société Internationale des Électriciens, Society for the Promotion of Engineering Education (now president), etc., and also is connected with various Associations, like the Northwestern Electrical Association, National Electric Light Association, American Street Railway Association, etc. He was connected with the Edison Electric Lighting and Sprague Electric Railway interests before coming to the University of Wisconsin, and has since been technical adviser to various manufacturing and other corporations. He was married on Sept. 24, 1889, to Miss Mabel A. Foss, of New Gloucester, Me., and has two children.

He does not expect to begin his work with the Institute

until the beginning of the second term. In the meantime Professor Clifford will continue to be acting head of the department.

Professor Jackson's coming to the Institute will strengthen the corps of instructors by the addition of a man of large practical experience, of high academic aims, and of vigorous and progressive ideas in education. It is believed also that he will be able to strengthen the connection between the teaching and practice of the electrical engineering profession.

THE CLASS OF '81 GATE

The representative of the Technology Fund Committee from the class of '81, in reply to a circular sent out in the middle of the winter, received a letter from one of the members of the class, suggesting the practicability of subscribing to a fund with a more definite purpose. A conference with the chairman of the Advisory Council on Athletics elicited the suggestion that a Memorial Gate to the Athletic Field would be most appropriate.

Immediate action was then taken, and circulars issued requesting the members of the class of '81 to subscribe to a "Twenty-fifth Anniversary Fund," which should be used primarily to build a suitable main gate at the Athletic Field, any balance to be placed with the Advisory Council on Athletics, to be spent for such purposes as they might see fit in connection with their work.

At the reception given to the graduating class by the Alumni Association, the assistant secretary of the class of '81 announced that the "'81 Fund," amounting to almost $1,000, had been placed in the hands of the Advisory Council on Athletics, and would be expended for athletic purposes.

The gate has been constructed during the summer, directly by the Advisory Council. It consists of two ten-foot high and forty-inch square piers of select sand water-struck brick on solid concrete foundation, with granolithic caps, four feet square. Surmounting the piers are steel arches of graceful design, and in the centre is set a bronze tablet with the following inscription, by F. Gelett Burgess, M. I. T. '87.

CLASS OF '81.

NOT THE QUARRY, BUT THE CHASE
NOT THE LAUREL, BUT THE RACE
NOT THE HAZARD, BUT THE PLAY
MAKE ME, LORD, ENJOY ALWAY!

1906.



THE CLASS OF '81 GATE



THE STRAIGHTAWAY TRACK, TECHNOLOGY FIELD

The gates are of heavy two-inch pine, natural finish, and are ornamented with handles bearing the numerals of the class and with ornamental wrought iron hinges. The gate has been pronounced to be architecturally one of the best in this section of the country.

There also has been constructed at Technology Field this summer a 220-yard straightaway track, which gives the additional advantage, in connection with the former track, that a quarter-mile race can now be run with only one turn. This track necessitated a heavy cut at each end, and in order to give the maximum distance, and as a matter of economy in care of the track, a two-foot concrete wall, six feet high, twenty feet long, has been placed at each end, and the track has been sodded on both banks.

The addition of this track makes Technology Field the best athletic practice ground in New England.

The "'81 Fund" was subscribed to by twenty-five different members of the class. The class of '81 was always prominent in athletics when undergraduates. The present Athletic Association was instituted to a great extent by members of this class, Mr. H. H. Cutler, now of the Cutler-Hammer Company of Milwaukee, being the first vice-president. Dr. John Duff of Charlestown, Major Briggs of Boston, George Mower, the managing director of the Sturtevant Blower Company in Europe, were members of the football team. Lieutenant Henry N. Sweet of Boston, Governor Frank W. Rollins of New Hampshire, Colonels George R. Wallace, Fred T. Walsh, Emmons Crocker of Massachusetts, Colonel Thomas N. Hastings of New Hampshire, Godfrey L. Cabot, Arthur Winslow, and Frank E. Darlington were members of the class also.

The construction of the gate marks a new epoch in the history of Technology Athletics, and is in line with the remark of the member of the Corporation who gave the money to build most of the fence round the field, and the grand and field stands, that he "wanted to do something that would benefit the undergraduates."

THE NEW GYMNASIUM

The expiration of the lease of the ground on which our old Exeter Street Gymnasium was situated and the unwillingness to renew the same made it necessary for the Institute to move the old gymnasium or erect a new one elsewhere. The latter plan seemed the better, and after much deliberation a site was chosen on our Garrison Street lot adjoining the Mechanical Laboratories. The new gymnasium was completed in December, 1905. It is built of brick with a slate roof and a steel frame. It is a parallelogram in form, running north and south. On the north extends an L containing dressing-rooms, lockers, toilet-room, shower-room, and a heater and boiler for heating water. The gymnasium is heated by steam from the boilers of the Mechanical Laboratories.

The main building, or gymnasium proper, is 90 feet by 60, and contains one and one-half stories. The ceiling is 29 feet high in the centre, and 12 feet high at the sides to plate. It is covered by a simple open-timbered roof, supported by eight steel trusses. Each side wall contains eighteen windows, giving abundance of light.

The L is 60 feet by 30, and contains one story. The ceiling is open-timbered, and is 12 feet high. The entrance to the L leads into the dressing-room, 42 feet by 30, containing 113 large lockers and 228 small ones, also the heater and a 500-gallon boiler, which furnishes an adequate supply of hot water for the shower. On the right are the toilet-room, 18 feet by 12, and a shower-room, 18 feet by 18, containing 5 shower baths.

The main entrance to the gymnasium leads into the gymnasium floor on the east side near the L. On the right are the offices of the gymnasium instructor and the track coach and the above-mentioned entrance to the dressing-room. On the east and west sides of the gymnasium floor are chest weights, 31 sets in all. On the south side is the hand-ball court. In the south-east corner are the dumb bell and Indian club racks. The hanging apparatus is suspended from the trusses. The floor apparatus is portable. In

the centre of the building is the basket-ball floor. In the corners of the floor are placed portable raised corners, making an excellent running track, 19 laps to the mile. Down the centre of the floor a 35-yard dash space is obtained, beginning in the edge of the dressing-room. This opens on the gymnasium floor by raising two wide doors. During track meets, basket-ball games, fencing meets, and gymnastic meets, seating capacity for 300 is furnished by means of a portable bench gallery, which is placed on the east side of the floor. This is a unique device, and works exceptionally well. The gymnasium is well lighted by electricity from the Edison Company. This is a great improvement over lighting by gas, as in our old gymnasium, since it is so much easier to ventilate.

The gymnasium was built at a very moderate cost, but is well adapted for present needs. It is better than our old one in every respect, and offers far superior advantages to the students for exercise and recreation.

At the opening of the Institute in the fall, physical examinations are given to all students intending to take regular class work during the winter. This consists of about 20 measurements and a strength test. From these charts each student is informed of his deficiencies and is advised as to those exercises which will be most beneficial to him. In the spring a like examination is given to those students who took one in the fall, so that each student may note his exact increase in development and strength.

Work in the gymnasium is optional. Regular class work begins the first Monday after the Tech Field Day, and extends through the winter until about the middle of April, when the second physical examinations begin. There are six classes a week, on Mondays, Wednesdays, and Fridays at 4.15 and 5.15 P.M. The work comprises mainly free exercises, dumb bells, Indian clubs, and heavy gymnastics, such as parallel bars, high and low horizontal bar, high and low buck, side horse, horizontal ladder, and tumbling. Two years ago a gymnastic team was organized, and this team has given some excellent exhibitions.

The track team holds indoor practice during the winter, on Tuesdays and Thursdays from 4 to 6, in preparation for its numerous

meets held during the winter. Although attendance at the gymnasium has not been all that could be desired, the few months that we have had our new gymnasium have shown us that it will attract a great many more men than our old one possibly could.

WINFIELD C. TOWNE.

LOWELL INSTITUTE

PROGRAM FOR 1906–07

The Trustee of the Lowell Institute, under the will of John Lowell, Jr., maintains annually in the city of Boston various Courses of Free Public Lectures. For the present—the sixty-eighth—season five distinct series are provided, to all of which admission is free (but only under certain conditions), as follows:—

I. Public Lectures in Huntington Hall, 491 Boylston Street.

II. Evening School for Industrial Foremen, under the auspices of the Massachusetts Institute of Technology.

III. Teachers' School of Science, mainly under the auspices of the Boston Society of Natural History.

IV. Evening Courses for Workingmen, under the auspices of the Wells Memorial Institute.

V. Public Lectures in King's Chapel on Current Problems in Theology, under the auspices of the Harvard Divinity School and by members of its Faculty.

Further information in regard to the several series is given below.

A. LAWRENCE LOWELL, *Trustee.*

W. T. SEDGWICK, *Curator.*

I. PUBLIC LECTURES IN HUNTINGTON HALL

The First Course will be eight lectures by Percival Lowell, non-resident Professor of Astronomy at the Massachusetts Institute of Technology, Director of the Lowell Observatory, Flagstaff, Ariz., and Medallist (Mars) of the French Astronomic Society, on "Mars as the Abode of Life": 1. Planetary Evolution: the Conditions and Possibilities of Life; 2. Natural Features of Mars; 3. Geology and Areology: Mars and Glacial Epochs; 4. Geology and Areology: Loss of Oceans and Growth of Deserts; 5. Habitability: Probability of Life on Mars; 6. Non-natural Features: Canals and Oases; 7. Metamorphoses of the Canals; 8. Habitation: Proofs of Life

on Mars. On Mondays and Thursdays at 8 P.M., beginning October 15.

The Second Course will be eight lectures (in French) by M. le Dr. Pierre Janet, Professeur de psychologie au Collége de France, Directeur du laboratoire de psychologie de la Salpêtrière, on "Psychotherapeutics, or the Applications of Psychology to Therapeutics" (La psychothérapie, les applications de la psychologie à la thérapeutique): 1. Résumé historique; 2. Principe de la psychothérapie. Influence des états psychologiques sur la santé physique et morale; 3. Psychothérapie générale, l'exhortation morale; 4. Les méthodes suggestives; 5. Les méthodes d'isolement et de repos; 6. L'éducation motrice; 7. L'éducation de la sensibilité, l'æsthésiogénie; 8. Le relèvement de la tension psychologique l'éducation de l'émotivité. On Tuesdays and Fridays at 8 P.M., beginning October 23.

The Third Course will be eight lectures by Barrett Wendell, Professor of English in Harvard University, on "Contemporary France": 1. The Universities; 2. The Structure of Society; 3. The Family; 4. The French Temperament; 5. The Relation of Literature to Life; 6. The Question of Religion; 7. The Revolution and Some of its Effects; 8. The Republic and Democracy. On Mondays and Thursdays at 8 P.M., beginning November 12.

The Fourth Course will be eight lectures by William James, Professor of Philosophy in Harvard University, on "The Movement called 'Pragmatism' in Recent Philosophy." On Wednesdays and Saturdays at 8 P.M., beginning November 14.

The Fifth Course will be eight lectures by Alfred C. Haddon, Sc.D., F.R.S., University Lecturer in Ethnology, Cambridge, England, on "The Melanesians: Racial Problems, Distribution of Culture, Social and Religious Evolution." On Tuesdays and Fridays at 8 P.M., beginning November 20.

The Sixth Course will be two lectures by William H. Furness, 3d, M.D., F.R.G.S., Fellow of the Anthropological Institute of Great Britain and Ireland, etc., on "The Kayan and Kenyah Tribes of Borneo, and the Natives of Uap in the Caroline Islands." On Monday, December 10, and Thursday, December 13, at 8 P.M.

The Seventh Course will be eight lectures by Professor George E. Woodberry, on "Poetic Energy." On Tuesdays and Fridays at 8 P.M., beginning Jan. 8, 1907.

The Eighth Course will be eight lectures by Colonel Sir Colin Scott Moncrieff, LL.D., Knight Commander of the Star of India, etc., on "The English in India and Egypt." On Mondays and Thursdays at 8 P.M., beginning February 4.

The Ninth Course will be eight lectures by Frank M. Chapman, Curator of Ornithology, American Museum of Natural History, New York City, on "The Distribution of North American Birds." On Tuesdays and Fridays at 8 P.M., beginning February 5.

The Tenth Course will be six lectures, by Charles Sedgwick Minot, D.Sc., LL.D., etc., James Stillman Professor of Comparative Anatomy in the Harvard Medical School, on "The Problem of Age, Growth, and Death." On Mondays and Thursdays at 8 P.M., beginning March 4.

The Eleventh Course will be eight lectures by Russell H. Chittenden, LL.D., Professor of Physiological Chemistry and Director of the Sheffield Scientific School of Yale University, on "The Nutrition of Man." On Tuesdays and Fridays at 8 P.M., beginning March 5.

The Twelfth Course will be eight lectures by Albert Bushnell Hart, LL.D., Professor of History in Harvard University, on "The Real South." On Mondays and Thursdays at 8 P.M., beginning March 25.

Method of Ticket Distribution

Tickets are distributed to the public, free of charge, as follows:—

Admission tickets to the first lecture of each course will be mailed one to each applicant, in the order of application, and, until the supply is exhausted, to all persons applying by letter more than two days before the beginning of any course, to the Curator of the Lowell Institute, 491 Boylston Street, Boston, and enclosing a stamped addressed envelope.

Persons desiring to secure tickets for more than one course must

send a separate stamped addressed envelope for each ticket and each course. All such envelopes will be filled or placed on file, but, in general, tickets for any course will not be mailed to applicants until a few days before that course begins. When tickets are much in demand, only one ticket will be sent to any one applicant.

On and after the day on which a course begins any tickets left over for that course may be obtained at the office of the Lowell Institute, 491 Boylston Street, between the hours of 10 A.M. and 4 P.M., or by sending to the Curator, with a specific request for such left-over tickets, a stamped addressed envelope; but no tickets will be given out at the office of the Lowell Institute for any course before the day on which that course begins.

All persons attending the first lecture of any course may, just before entering the hall, exchange their admission tickets to the first lecture for tickets good for the entire course and for reserved seats.

In order to make the distribution fair, and to avoid a rush for the best seats, all reserved seat tickets are placed beforehand in envelopes, some containing one ticket good for one reserved seat, some containing two or more tickets good for adjoining seats. The envelopes are then shuffled, and at the first lecture of any course all who desire to do so may, as stated above, exchange their first lecture admission tickets at tables in the vestibules for envelopes drawn by lot, containing course tickets good for reserved seats.

II. EVENING SCHOOL FOR INDUSTRIAL FOREMEN

The Trustee of the Lowell Institute has established in the Institute of Technology a Free Evening School for Industrial Foremen, comprising at present two courses, one mechanical, the other electrical, each extending over two years.

These are intended to bring the systematic study of applied science within the reach of young men who are following industrial pursuits and desire to fit themselves for higher positions, but are unable to attend day courses of instruction.

The work of the school includes recitations, lectures, drawing-room practice, and laboratory exercises, and is given by members

of the Faculty of the Institute of Technology. To those who satisfactorily complete the required courses of the two years, and pass the examinations, certificates are given.

The school is open only to those who are ambitious and willing to study.

The present school year begins Oct. 1, 1906. Attendance from 7.30 to 9.30 for three or four evenings a week is required, in addition to outside study. The entrance examinations are, in a measure, of a competitive nature, and considerable weight is attached to the applicant's occupation and practical experience.

A circular giving more detailed information may be obtained by sending a stamped addressed envelope to the Director, Lowell Institute Free Evening School for Industrial Foremen, Massachusetts Institute of Technology, Boston.

III. TEACHERS' SCHOOL OF SCIENCE

Free lectures maintained by the Lowell Institute in the Teachers' School of Science, mainly under the auspices of the Boston Society of Natural History, will be given during the season as follows:—

1. "Field Lessons in Botany." By Mr. Hollis Webster.
2. "Field Lessons in Zoölogy." By Mr. Albert P. Morse.
3. "Field Lessons in Geology." By Professor George H. Barton.
4. "Laboratory Lessons in Botany." By Mr. Hollis Webster.
5. "Laboratory Lessons in Zoölogy." By Mr. Albert P. Morse.
6. "Laboratory Lessons in Geology." By Professor George H. Barton.
7. "Lectures and Laboratory Exercises in Alternating Currents." Under the direction of Professor H. E. Clifford.

A circular giving further information may be obtained by sending a stamped addressed envelope to the Curator of the Teachers' School of Science, Boston Society of Natural History.

IV. EVENING LECTURES FOR WORKINGMEN

Free instruction, especially arranged for workingmen, will be maintained by the Lowell Institute during the winter under the auspices of the Wells Memorial Institute, as follows:—

1. "On Practical Electricity." Twenty lectures for beginners. By Professor William L. Puffer.

2. "On Mechanical Drawing." Twenty lectures for beginners. By Mr. Harrison W. Hayward.

3. "On Machine Drawing." Twenty lectures for Advanced Students. By Mr. Harrison W. Hayward.

4. "On Practical Mechanics." Twenty lectures. By Mr. Harrison W. Hayward.

5. "On Steam and Steam Engines." Twenty lectures for beginners and for advanced students. By Mr. Thomas Hawley.

6. "On Household Science, Cookery, etc." Fifteen lectures. By Miss Anna Barrows.

Further particulars, with instructions how to obtain admission, may be obtained by sending a stamped addressed envelope to the Secretary, Lowell Free Courses, Wells Memorial Institute, 985 Washington Street, Boston.

V. LECTURES IN KING'S CHAPEL ON CURRENT PROBLEMS IN THEOLOGY

Free lectures maintained by the Lowell Institute, under the auspices of the Harvard Divinity School, and by members of its Faculty, will be given as follows:—

1. "The Study of Theology and the Preaching of Religion." By Professor F. G. Peabody, D.D. November 5, "The Call to Theology"; November 12, "The Spirit of Theology."

2. "Foreign Influences on the Religion of Israel." By Professor G. F. Moore, D.D.,LL.D. November 19, "Babylonian Influence"; November 26, "Persian Influence"; December 3, "Greek Influence."

3. "The Present State of Old Testament Criticism." By Professor C. H. Toy, LL.D. December 10 and December 17.

4. "The Absoluteness of Christianity and the History of Religion." By Professor E. C. Moore, D.D. Jan. 7 and Jan. 14, 1907.

5. "The Authority Concept in Christianity." By Professor W. W. Fenn. January 21 and January 28.

6. "The Historical Criticism of the Gospels." By Professor J. H. Ropes, D.D. February 4 and February 11.

All of these lectures will be given in King's Chapel, on Mondays at 3 P.M. Tickets may be secured, free of charge, at the door, at the Harvard Divinity School, or by applying by mail to the Curator of the Lowell Institute and enclosing a stamped addressed envelope.

GENERAL INSTITUTE NEWS

THE PRESIDENCY

In the Boston papers of October 17 it was officially announced that Professor Andrew Fleming West, dean of the Graduate School of Princeton University, had been invited, by the Executive Committee of the Corporation, to take the Presidency of the Institute in succession to Dr. Pritchett. It is understood, however, that Dr. West desires ample time in which to consider the invitation; and as, at the time of going to press, his reply has not been received, it is impossible for the REVIEW to make any further announcement regarding this important matter.

CORPORATION NOTES

At the annual meeting of the Corporation on October 10, Dr. Francis H. Williams was elected secretary of the Corporation for the ensuing year. Mr. Frederick P. Fish was re-elected a member of the Executive Committee for a term of five years. Upon nomination by a special committee appointed for the purpose, standing committees and visiting committees were elected for the ensuing year.

At this meeting the following appointments were confirmed: Dugald C. Jackson, Professor of Electrical Engineering; George C. Shaad, Assistant Professor of Electrical Engineering; George Meister, Instructor in Modern Languages; Floid M. Fuller, Royal R. Heuter, Malcolm C. Mackenzie, Henry R. Patterson, Everett F. Tomlinson, Assistants in Mechanical Engineering; Harold M. Beers, Royall D. Bradbury, Arthur M. Chidester, George R. Guernsey, William Tufts, Assistants in Civil Engineering; Leavitt N. Bent, Anna M. Cederholm, Assistants in Technical Chemical Research; Arthur Neale, Assistant in Technical Analysis; William J. Walsh, Assistant in Heat Measurements; Herbert T. Kalmus, Research Associate in Physical Chemistry; Fred C. Mabee,

Ledyard Sargent, E. B. Spear, Research Assistants in Physical Chemistry; Assistant C. J. Emerson was promoted to Instructor in Heat Measurements.

SECRETARY OF THE INSTITUTE

Some months ago the Executive Committee decided to rearrange the distribution of the administrative work of the Institute, and with this end in view it was voted to establish a new office, that of Secretary of the Institute. The Secretary will be an administrative officer giving practically his whole time to the work of the place, and the duties of the position, in so far as they have at present been determined, will include the following: administrative assistance to the President; conduct of the general correspondence, as well as the correspondence with students and parents; general oversight of the work of the Registrar and Recorder; preparation and distribution of publications; development of relations with the alumni; and, in general, such assistance to officers and committees of the Corporation and of the Faculty in the preparation of Institute business as would fall naturally to the work of a secretary.

The permanent appointment of the Secretary will not be made until after the election of the new President; but in the mean time Professor Bartlett, '86, has been asked to take charge of the office.

Under this arrangement Professor Tyler, who for many years has combined with so much success the duties of Secretary of the School and of the Faculty with his work of teaching, will be enabled to devote his entire time to the development of the work of the Mathematical Department, of which he is the head.

At the Faculty meeting of September 26 the President presented the following letter, which was referred to the Special Committee on Faculty Organization:—

SEPTEMBER, 24, 1906.

PRESIDENT HENRY S. PRITCHETT:

Dear Sir,—The action of the Executive Committee communicated to me by your letter of June 12 affects somewhat fundamentally the distribution of Faculty administrative business, and at the same time expresses

the desire of the Executive Committee that I devote my entire time to my mathematical work.

For these reasons, and in order that the Faculty may deal as freely as may be with its share in the situation, I respectfully tender my resignation as Secretary of the Faculty, to take effect as soon as it may be practicable for the Faculty to make other provision for the duties of that office.

May I ask if you will present this resignation to the Faculty on Wednesday? Very truly yours,

(Signed) H. W. TYLER, *Secretary.*

REGISTRATION

As compared with last year, and at the same time of the term, the registration of the Institute has fallen from about 1,430 to about 1,375. This drop from the number of last year is due in part to the fact that the class which was graduated last June was the largest in the history of the school, and is replaced by a considerably smaller first-year class,—smaller, except for last year's, than for several years.

The number of persons admitted on examinations is somewhat larger than last year, as is the first-year class.

One hundred and thirty-one of those who have been admitted to the Institute from other colleges without examinations have distributed themselves among the four years as regular and special students, as follows:—

First Year:	Regular	15	
	Special	9	Total 24
Second Year:	Regular	23	
	Special	27	Total 50
Third Year:	Regular	24	
	Special	30	Total 54
Fourth Year:	Regular	0	
	Special	3	Total 3

Among the institutions represented by graduates or students transferring to the Institute are:—

Adelbert College, Agricultural and Mechanical College of Texas, Amherst College, Armour Institute of Technology, Adrian, Bates, and Bowdoin Colleges, Brooklyn Polytechnic Institute, Bushnell University, Canisius College, Case School of Applied Science, Charleston and Colby Colleges, Colegio El Porvenir, Colorado School of Mines, Columbia University, Cooper Union School, Dalhousie and Dartmouth Colleges, De Pauw University, Hampden Sidney College, Harvard University, Immaculate Conception College, Indiana University, Iowa State College, Johns Hopkins University, Kenyon College, Leland Stanford University, Louisiana State and Miami Universities, Middlebury College, New Hampshire College of Agriculture and Mechanic Arts, New York, Northwestern, Notre Dame, and Ohio State Universities, Pei Yang, Pennsylvania State College, Princeton University, Randolph Macon College, Rhode Island College of Agriculture and Mechanic Arts, Rose Polytechnic Institute, Rutger and St. John's Colleges, St. Mary's Institute, Sheffield Scientific School, South African and South Carolina Colleges, South-western University, Stevens Institute of Technology, Syracuse University, Throop Polytechnic Institute, Trinity and Union Colleges, United States Naval and Military Academies, Universities of California, Cambridge, Chicago, Havana, Manila, Michigan, Minnesota, Mississippi, Missouri, Rochester, South Dakota, Texas, Virginia, and Wyoming, Virginia Polytechnic Institute, Washington and Jefferson College, Washington and Lee, Washington and Wesleyan Universities, Whitman and Williams Colleges, Yale University.

FACULTY NOTES

Professor Woodbridge, on account of professional engagements in Washington, has asked for leave of absence during the current half-year.

Professor Currier has assisted with the administrative work during the summer vacation, taking charge of the general correspondence in July and August.

VACATION NOTES

Professor Hovgaard during his stay in Europe last summer went to Denmark, and spent two weeks on board the latest Danish battleship, the "Olfert Fisher," cruising in Danish waters, and had an opportunity to study various naval technical questions. He spent two months studying ship-building at the Royal Dockyard, and at the shipyard of Burmeister and Wain in Copenhagen, and collected a great amount of valuable material and information for use in the work of instruction at the Institute.

Professor Bigelow writes:—

I had four weeks abroad, three of which I spent in Frankfort-on-the-Main and one in Paris. While in Frankfort, I visited the Real Gymnasium, generally known in Germany as the "Muster Schule," or Model School. It occupies a fine stone building with an ample playground, and impressed me particularly by its abundance of light and excellent ventilation. The spacious, well-lighted hall-ways are ornamented with mottoes, proverbs, etc., and with colored pictures of scenes in German history. The school was originally established as a model for the schools of Frankfort. It never has been officially a model for other schools, but is now generally regarded as one of the best schools, if not the best school, in Germany.

Of course, I gave my attention specially to the instruction in modern languages. I attended several recitations, including the lowest class, or beginners, and the highest class, both in French and in English. The beginners, sexta pupils, in French, had what I should consider a good pronunciation for a Technology student.

In the highest class (prima) in English the teacher read extracts from an English book on the Elizabethan stage. The pupils were thereupon required to stand on the platform, and recite in their own English what they had understood. The pronunciation was not perfect, but very good, and the delivery fluent. At the request of the teacher I gave the pupils a brief account in English of one of my experiences. My story was thereupon told in instalments by a number of pupils.

In the recitations in languages I heard very little German. The exercises were conducted almost wholly in the language taught. Teachers of foreign languages in German schools have acquired the pronunciation of the

languages that they teach by residence in the countries of those languages. This is not required by law or ordinance, but is the result of a well-established, one may say invariable, practice of appointing boards and similar bodies. From conversation with teachers and other persons I gathered that the period of required residence abroad varied in different schools from six months to two years.

Professors Bartlett and Lawrence spent the early part of the summer in Spain. Landing in Gibraltar, they made a short trip to Tangier, and then worked northward, visiting Cadiz, Jerez, Seville, Cordova, Granada, Toledo, Madrid, Escurial, Legovia, Saragossa, Burgos, Bilbao, San Sebastian, and other places of less importance. Afterwards they made a journey through Touraine visiting the châteaux of the Loire. Professor Bartlett spent the latter part of the summer among the mountains of the Tyrol and the Dolomites.

Professor Goodwin writes:—

EDITORS TECHNOLOGY REVIEW:

Gentlemen,—I have just received a note from the REVIEW requesting some notes regarding my trip abroad this summer.

As we (Mrs. Goodwin and I) did not reach Bremen until the latter part of July, we made no attempt to visit any of the universities except that of Leipzig, where we proceeded at once after landing, stopping off *en route* only at Hildersheim and Braunschweig to see the very interesting examples of early German timber architecture, for which these towns are famous. We had a delightful time in Leipzig with Professor Ostwald and his family. He says he hopes to return to America within a few years, not to lecture as strenuously as he did last winter, but to sketch and paint. It will be of interest to the many Tech men who have studied under him to know that he has resigned his professorship at the university and retired to his country seat near Grimmer, where he will continue his literary work free from the administrative cares of his laboratory. Professor Max Le Blanc of Karlsruhe has been appointed his successor.

The new Physical Laboratory has been completed since I was last in Leipzig, and is undoubtedly one of the finest, if not the finest, in Germany. I spent a very pleasant day there with Professor Des Coudres, inspecting the various laboratories and equipment; the apparatus for lecture demonstra-

tions is unusually fine. The facilities for research are such as to make one envious. As in Berlin, there are two independent departments of Physics (that for mathematical and that for experimental Physics), each with its own lecture-rooms, research-rooms, and equipment of apparatus. The old Physical Laboratory, which for so many years was under the directorship of Wiedemann, has been turned over to the department of Mathematics.

One notable change was to be observed in Leipzig, and that was the decrease in the number of English and American students studying Physics and Chemistry. This is undoubtedly due in part to the enforcement of the recently adopted six semester residence requirement, in consequence of which many students are now going to Zürich rather than Germany for their degrees. In Switzerland a student may go up for his degree on the satisfactory completion of his Arbeit, and two of our graduates in Physics made their Doctor's degree there this summer, after a residence of only one year. It is to be sincerely hoped that the Memorial sent by the Institute Faculty to the German Minister of Education may result in the admission of our graduates to German universities on the same basis as in years past.

After leaving Leipzig, we went to Munich for the Wagner Festival, making a special trip to Rothenburg on the way. This little town is one which no one should pass by, as it far surpasses Nuremberg in picturesqueness, affording, as it does, a perfect picture of a walled mediæval town, unspoiled as yet by any jarring modern note.

The greater part of August and early September we spent in exploring some of the more out-of-the-way parts of the Austrian Tyrol, Dolomites, and Italian Lakes, being favored with almost cloudless weather the whole time. For those who enjoy walking and climbing no sections of the Alps offer a greater variety of attractions than these. Many of the finest points have been made accessible by the various sections of the German-Austrian Alpine Club, through the maintaining during the summer season of comfortable quarters in their numerous *Hütte*, which are located on *Jochs*, summits, and even glaciers.

We returned by the southern route from Genoa, stopping off at Naples, Algeria, and the Azores.

FELLOWS

In order to give greater dignity to appointments to the Fellowships of the Institute, there is now issued to each newly appointed

Fellow an engraved certificate bearing the seal of the Institute and the signatures of the President and of the Secretary of the Faculty.

Herbert T. Kalmus, '04, and Daniel F. Comstock, '04, who as Fellows at the Institute have been studying at Zürich, Switzerland, during the past year, were awarded the degree of Doctor of Philosophy last June. Allan W. Rowe, '01, and C. H. Mathewson, who as Fellows of the Institute have been working in physical chemistry at the University of Göttingen, Germany, during the past two years, have also received the degree of Doctor of Philosophy during the past summer.

DEPARTMENT NOTES

CIVIL ENGINEERING

Professor Swain is at present consulting engineer for a bridge across the Merrimack River at Haverhill consisting of six spans, a rolling lift bridge at Gloucester, a pile bridge with steel draw span between Salem and Beverly, and a bridge across the Merrimack at Lawrence. The work of constructing the substructure at Haverhill is nearing completion, one abutment and three piers being nearly completed at the present time. At Gloucester one abutment has been completed, and work is being done upon the other. Contracts are just being advertised for the bridge between Salem and Beverly, and studies are being made for the proposed bridge at Lawrence, which is to be built by the Bridge Commission of that city. Mr. J. E. Barlow, a graduate of Course I. in the class of 1905, and last year an assistant in the Civil Engineering Department, is one of the bridge commissioners.

Professor Swain has also been appointed by the mayor a member of the Commission to revise the Building Laws of the City of Boston.

Mr. S. H. Thorndike has resigned his position as instructor in the Civil Engineering Department, and is employed in the office of the city engineer of Boston.

Five members of the graduating class of last year have been ap-

pointed as assistants: namely, R. D. Bradbury, H. W. Beers, A. M. Chidester, G. R. Guernsey, and William Tufts.

Mr. Hosmer and Mr. Breed, instructors in the Civil Engineering Department, have prepared a work on surveying which is being published by John Wiley & Sons, and which, it is expected, will be ready for the use of classes this year.

Mr. Hosmer has been engaged during the greater part of the summer in the work of surveying the boundary lines of the State under the Harbor and Land Commission. Mr. J. W. Howard, instructor in the department, and Mr. Kilburn Whitman, assistant, have been engaged upon the same work.

At the meeting of the Society for the Promotion of Engineering Education, which was held at Ithaca, N.Y., in July, the Civil Engineering Department was represented by Professors Swain and Allen. Professors Tyler and Talbot were also present. Professor D. C. Jackson, then of the University of Wisconsin and who comes to the Institute as head of the Department of Electrical Engineering, was elected president of the society for the ensuing year.

Very important changes have been made in the course scheme in civil and sanitary engineering. The principal alteration consists in the omission of one year of modern language, so that students in these courses will hereafter complete their study of French and German at the end of the Freshman year. The object of this change is to render it possible to take up the study of mechanics at the middle of the second year, immediately following the physics of the first term. The course in mechanics will be completed at the middle of the third year, and will be followed by the course in structures, which will continue until the completion of the course, rendering the entire course consecutive and connected. Various minor changes have been made, such as increasing the time given to descriptive geometry and to steam engineering, the hope being not only to strengthen the professional work, but to ease up a little and give more time to some of the studies in the curriculum, thereby lessening to some extent the pressure upon the students, with the expectation that this will enable them to do better and more thor-

ough work. The attempt is also being made to reduce the number of studies taken at any one time by students in these courses. It is believed by the Department of Civil Engineering that these changes will result in very great benefit to the courses. It should be added that any student who wishes to pursue French or German further than required in the course has the opportunity to do so by taking one of these studies as an option in the third year.

MECHANICAL ENGINEERING

The officials of the Boston & Maine Railroad, having acquired a large passenger locomotive provided with a superheater, and desiring to ascertain its performance and economy as compared with those of a similar locomotive without a superheater, two of the students, under the direction of Professor Lanza, have carried on during the summer a series of road tests, including six runs of over 100 miles each with the former and four runs of the same length with the latter. The experimental work on the road has been completed, and the data have thus been obtained. The computations will be made during the term.

For many years there have been performed by students of the department investigations which involve road tests of locomotives and others which involve some series of experiments performed on the road, such work having been performed on several different roads. Thus, last year, the experimental determination of the greatest load coming upon the driving springs when the locomotive passes over irregularities in the track formed the subject of one of the theses, while a few years ago one of the theses had for its object a comparison of the performance and economy of a large compound freight locomotive with those of a single one of special design employed in the same service.

MINING ENGINEERING

The Summer School this year was an extremely interesting one. It was held in Minnesota, where the Burt-Pool mine and the Mahoning Mine were visited, each of them able to handle 20,000

tons a day by the open pit method; also in Michigan where the Newport deep mine at Ironwood and the Chapin deep mine at Iron Mountain were visited and studied. Later the copper country was visited, where the Champion and Baltic Mines, the Champion, Trimountain, Quincy, and Osceola Mills, and the Michigan and Calumet Smelters were studied with great interest by the students. At Sault Ste. Marie, Ontario, the party visited the iron blast furnace and the electrical smelting plant, as well as the charcoal by-product plant, of the Algoma Steel Company, and at Sudbury they visited the mines and works of the two prominent nickel mining companies. A very enjoyable feature was the voyage up from Ashtabula to Duluth on the ore steamer "John G. Allbright," which privilege was given to the party through the kindness of M. A. Hanna & Co. Privileges in Minnesota were given by the Duluth, Missabe & Northern Railroad, and in the copper country by the Copper Range Railroad Company.

Professor Locke has been making a tour of mines and prospects in New England and the Province of Quebec for the purpose of gaining professional experience and enlarging his ability to do for the students.

Professor Lodge has crossed the water and attended the joint meeting of the Iron and Steel Institute of Great Britain and the American Institute of Mining Engineers. He reports an extremely interesting and profitable meeting.

Professor Richards has made a professional visit to Virginia to help in the concentration of pyrite and one to Colorado to help in the concentration of tungsten; also one to Missouri to help in the concentration of lead. In Denver and Chicago he made arrangements in regard to the manufacture of some of his designs.

CHEMISTRY AND CHEMICAL ENGINEERING

In June last the department received an interesting proposition from Harrison Brothers & Co., Inc., of Philadelphia, concerning a contemplated summer course in practical chemistry which they were about to inaugurate. The course may be briefly outlined as follows:—

Students who have completed two years of work in certain selected institutions will be admitted to their well-equipped laboratories for a period of about six weeks for the first summer, and will be employed in the analytical laboratory during that time, the work assigned to them to depend upon demonstrated ability. In the second summer the student will be given advanced work in both organic and inorganic analysis, and, if sufficiently proficient, research work along analytical or technical lines. During the third summer the student will be assigned to special research work in analytical methods and the development of industrial processes, and students of marked ability be given a working place in the industrial laboratory of the company.

The laboratory courses are accompanied by occasional illustrated talks on chemical and allied manufacturing processes, on chemical engineering, and a possible optional course in a modern language.

Students who complete satisfactorily the full course will receive diplomas certifying to their proficiency in the field of applied chemistry. They receive during the first-year course remuneration for their services which will nearly cover living expenses, and a somewhat larger sum may be paid in the two later years. While the company does not in any way guarantee employment to the young man participating in this instructional course, it is probable that the training thus offered will cause these men to be sought for technical positions.

The department was asked to nominate a suitable man to take part in this work, and Howard E. Batsford, of the second year of the course in chemical engineering was named. He has availed himself of the opportunity, and reports that the course has proved to be successful and profitable. It is expected that other students will be nominated from the Institute in succeeding years if the plan prospers.

The extensive plant of the Harrison Brothers & Co. affords a most unusual opportunity for such a "practicum" as this, and one which should be of great value to any earnest, intelligent fellow. The offer on the part of the company is a liberal one, and deserves the hearty appreciation of those charged with the education of the young chemists of the country.

Of the members of the Faculty in this department, only Professor Moore spent the summer abroad. Professors Talbot, Noyes, Walker, and Pope were in or near Boston during a considerable portion of the summer. Professor Talbot attended the meetings of the American Chemical Society and the Society for the Promotion of Engineering Education at Ithaca in June and July, and spent some time in the Adirondacks. Dr. Noyes cruised for six weeks along the Maine coast in July and August, and Dr. Walker and Professor Pope spent a month or more in Maine. Dr. Gill was at his summer home at Randolph, N.H., Dr. Fay at his home in Pennsylvania, and Dr. Thorp made an extended visit to his former home in Illinois, also visiting a number of chemical works. Professor Bardwell divided his vacation between Maine and Minnesota. Dr. Mulliken has been occupying a technical position as expert chemist during the vacation months.

Mr. G. W. Rolfe has recently returned from Porto Rico, and reports a successful but rather exacting season. He has spent a short time at Cottage City recuperating before the opening of the year.

RESEARCH LABORATORY OF PHYSICAL CHEMISTRY

The Research Laboratory of Physical Chemistry has opened with a staff consisting of seven Research Associates and four Research Assistants. The new members of the staff are Herbert T. Kalmus, M. I. T. '04, Ph.D. (Zürich), Ledyard W. Sargent, A.M. (Harvard), E. B. Spear, A.B., Manitoba, and Fred C. Mabee, A.M. (McMaster University). In addition, researches are being pursued in the laboratory by five candidates for the degree of Doctor of Philosophy and one candidate for that of Master of Science. All members of last year's staff remain.

To one of the research workers, Mr. Richard C. Tolman, a grant of three hundred dollars has been made during the summer from the C. M. Warren Fund of the American Academy of Arts and Sciences, to enable him to construct what will probably be the most powerful centrifugal machine ever made for experimental purposes, to be used in connection with an investigation of the

electromotive force produced at the two ends of a rapidly rotating solution of any ionized substance. A grant of $300 from the Rumford Fund of the American Academy has also been made to Professor A. A. Noyes, which is to be used for the construction of a calorimeter adapted to direct thermochemical measurement with solutions up to 100°.

A gift has just been made to the laboratory of a large diamond, valued at three hundred and fifty dollars, by the Ansonia Brass and Copper Company. This is to be used in insulating the electrode within the bomb used in the conductivity investigations at high temperatures, and will entirely eliminate the error due to contamination which has been involved in the previous work where it was necessary to use quartz insulators.

During the summer a sixty-cell storage battery, furnishing 120 volts, has been installed in the laboratory for the purpose of furnishing a constant electromotive force for experimental purposes and of providing night power during the summer.

A series of twelve articles on the electrical conductivity of aqueous solutions, describing the investigations on this subject made during the last three years in the laboratory, is in process of publication by the Carnegie Institution at Washington.

A large part of a revised scheme of qualitative analysis for the common elements, which has been worked out during the past year by Professor A. A. Noyes and Dr. W. C. Bray, has just appeared in the September number of the *Technology Quarterly*.

ELECTRICAL ENGINEERING

As noted elsewhere in the REVIEW, Professor Dugald C. Jackson, of the University of Wisconsin, has been appointed head of the department. Professor Jackson enters upon his work officially at the end of the first term, but will keep in touch with the department from the beginning of the year by frequent visits.

Another change is made in this department by the appointment of Professor George C. Shaad as Assistant Professor of Electrical Engineering in place of Professor Puffer, who has resigned. Pro-

fessor Shaad comes to the Institute from the University of Wisconsin. He has spent a considerable time at the Schenectady works of the General Electric Company, and comes to the work of the Institute with a wide experience both in practical applications of his profession and in the work of the teacher as well.

GEOLOGY

Assistant Professor D. W. Johnson has been called to Harvard as assistant professor of physical geography. He will there have charge of the elementary instruction in that subject. He will continue in 1906–07 to teach topographical geology at the Institute, but will relinquish to Dr. Shimer the structural geology of the second term.

Professor Johnson, accompanied by Dr. Shimer and others, has made this summer an extended wagon-trip through Arizona, Nevada, Utah, and Idaho.

Mr. Gerald F. Loughlin, a graduate of the department, and Ph.D. Yale, '06, has been appointed instructor in geology for 1906–07 at the Institute. He will teach petrography, and have part of other courses.

Mr. W. G. de Steigner (M. I. T. III.$_3$ '06) has been appointed assistant in geology for 1906–07, to succeed Mr. A. K. Adams, who has joined the United States Geological Survey. Mr. Adams is assistant to Mr. J. S. Diller in Oregon. He is now Professor of Geology in the University of New Mexico.

Professor Crosby is in Alaska, and Professors Warren and Jaggar remained in Massachusetts for most of the summer.

The department has received a reflecting projection apparatus as part of a valuable gift from the Hon. George G. Crocker and other Boston gentlemen. This apparatus will be used to show rock surfaces and other opaque objects to classes.

MATHEMATICS

Readers of the REVIEW will regret to learn that Professor Osborne has found his health unequal this fall to the resumption of his

teaching work. It is hoped that he will be able to resume it, however, during the year. Professor Wells has also been granted leave of absence for the year on account of ill-health; and Professor Bartlett has this fall been relieved of about half of his teaching, in order to enable him to accept his recent appointment as acting Secretary of the Institute. It has not yet been possible to make new appointments, and the work of the department will be carried by the remaining members, at any rate during the present term, though not without some overburdening of teachers and overcrowding of sections.

Dr. William H. Roever was married in June to Miss Hamilton, of St. Louis, Mo. Mr. Ernest A. Miller, after two years of graduate study, returns as instructor in mathematics, while Mr. W. E. McDonald, an instructor last year, is now a graduate student at Harvard University.

THE UNDERGRADUATES

OPENING OF THE COLLEGE YEAR

OFFICIAL WELCOME

President Pritchett, following the custom, met the Freshmen of the incoming class at one o'clock, September 26, in Huntington Hall. After a welcome to the Institute, to the fellowship of its professors and teachers, President Pritchett alluded to the various Technology interests, such as the Tech Union, the class organizations, and the athletic field. The present class is almost exactly the size of last year's class, from all States of the Union and from all parts of the world. There are two sets of students sent officially by their respective governments, one coming from China and the other from the Argentine Republic.

Y. M. C. A. RECEPTION

The Freshman Class met for the first time socially September 28 at the reception given to them by the Young Men's Christian Association. Speeches of welcome were given, refreshments were served, and everything possible was done to make the new-comers feel at home.

DINNER TO FRESHMEN

The first Freshman dinner of the year was held September 29 at the Tech Union under the auspices of the *Tech*. There were 143 present.

E. E. Whitney was toastmaster. Dean Burton spoke first, and gave to 1910 the welcome of the Faculty. Alexander Macomber, the first speaker, gave a short history of the show, and appealed to the men to come out. Phelps N. Swett spoke shortly on the musical organizations. The new head of Course VI., Professor Dugald C. Jackson, was then introduced, and welcomed heartily. Harry A.

Rapelye gave a few words on the *Technique*. He told of the uniqueness of the publication and its high standard among college annuals. The Bursar then told a few of his inimitable stories, which were relished by the hearers, as they always are. John S. Tobin, '06, gave the Freshmen a talking to about the poor showing they made at their first football practice. He made a strong appeal for the track team.

TECHNOLOGY Y. M. C. A.

The Y. M. C. A. held the first meeting of the year October 4, in the Parish Hall of Trinity Church. Dr. Mann addressed the men for a moment, and welcomed them to Trinity Church. He said that the first baccalaureate sermon Tech ever had was preached in Trinity Church by the famous Phillips Brooks. Since then all but one have been delivered there, and this one omission was due to some repairs that were being made on the church. He expressed a hope that the men of Tech would not wait until they graduated, however, to see the inside of the building.

Mr. T. C. Keeling then introduced the Rev. A. P. Fitch, pastor of the Mt. Vernon Church, who talked on three great habits of life, —hard work, continual service, and reverence.

ATHLETICS

CLASSES AT THE GYMNASIUM

The gymnastic work offered by the Institute is given by Mr. Towne in the gymnasium. The work will begin on the Monday following the Fall Meet, and will consist of exercises with the dumbbells, Indian clubs, parallel bars, the horse, rings, and other usual apparatus.

FIELD DAY

This year, contrary to the usual custom, Field Day will be held on Friday instead of on Saturday. The date set is Friday, November 16.

TENNIS ASSOCIATION

The Technology Tennis Association held its first meeting September 28. Ex-President J. I. B. Larned called the meeting to order, and acted as chairman. The election of officers for the ensuing year resulted as follows: P. R. Fanning, president; J. S. Nicholl, vice-president; and C. W. Coffin, manager.

The Harvard courts at Jarvis Field may be used by Tech students this year, the charge for playing being twenty cents an hour. There are also two tennis courts at Tech Field in Brookline.

HARE AND HOUNDS

The first Hare and Hounds run of the season was held September 29 at Hyde Park. Thirty men entered. Munroe Ames, '08, has been appointed chase captain in place of Hunter, '08, who has left the Institute.

NOTES

Beginning October 2, the General Library will be open until ten o'clock in the evening, except on holidays and Saturdays.

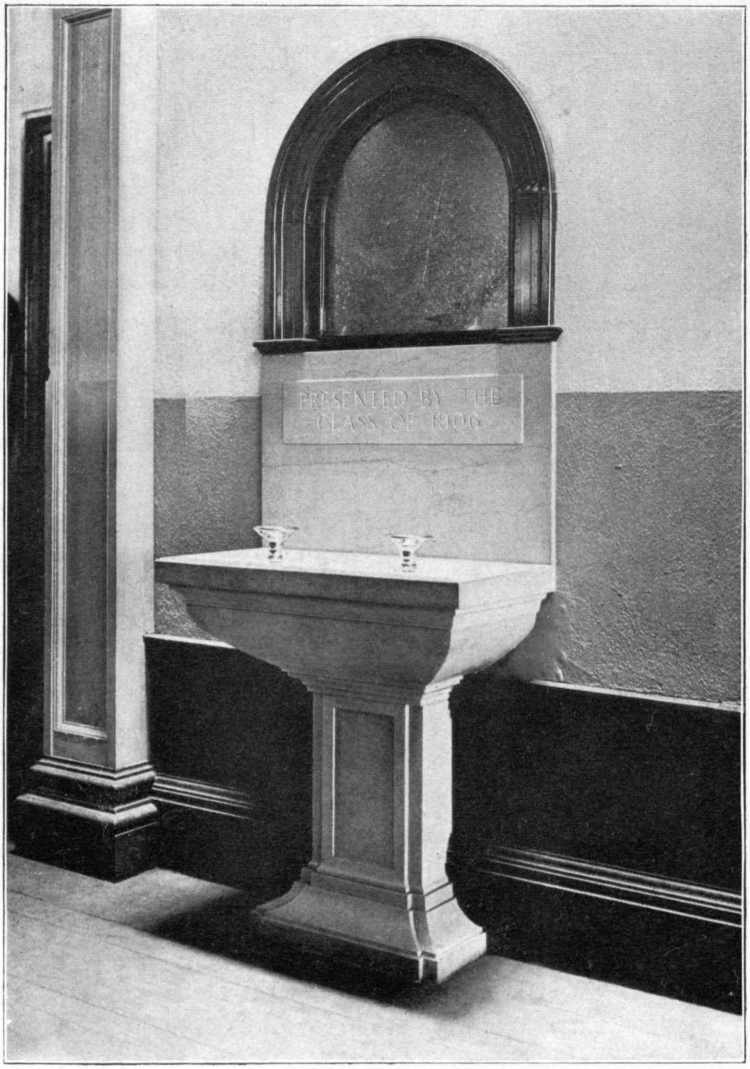
TECH CHAMBERS

Several important changes have been made in the Tech Chambers during the last summer that are designed to add to the attractiveness of the place for Technology students. Another story has been added to the building, the whole dining-room has been remodelled, and four bowling alleys have been installed in the basement.

CATHOLIC CLUB

The Tech Catholic Club held its first meeting of the year at the Union October 3.

It was voted to have the meetings held every third Wednesday night at eight o'clock at the Union. The present officers of the club



DRINKING FOUNTAIN PRESENTED TO THE INSTITUTE
BY THE CLASS OF
1906

are: president, A. Pope, '07; vice-president, J. H. White, '08; secretary and treasurer, G. J. McTigue, '08.

CHESS CLUB

The Chess Club held its first meeting of the season October 4. The motion to again enter the Metropolitan League was unanimously carried. The voting for new officers resulted as follows: president, S. F. Nelson, '08; vice-president and manager, F. W. Morrill, '07; secretary and treasurer, S. F. Barnett, '08.

THE 1906 DRINKING FOUNTAIN

The drinking fountain presented to the Institute last June by 1906, has been installed in Rogers Corridor.

The design of the fountain is by Wrinkle, '06. It was executed in Knoxville pink marble by Messrs. Bowker, Torrey & Co. of Boston. Professor Sedgwick's patented drinking faucets were furnished by the John R. Mott Iron Works; and J. F. Banlon, of Boylston Street, installed the whole.

THE GRADUATES

M. I. T. ALUMNI ASSOCIATION

Permanent Office in the Rogers Building

Through the cordial co-operation of the Institute authorities and the Income Fund Committee, the Alumni Association has been able to open a permanent office at Room 37, on the third floor of the Rogers Building. A clerk will be in the office throughout the business day.

The work of this new office will include the care of the Alumni Association records, the collection of dues, the handling of the alumni vote for term members of the Corporation, and the details of any other work the Association now carries on or may take up later.

In addition the office will continue to undertake the work of the Income Fund Committee, including the collection of annual subscriptions; and it will assume also some work in connection with the administrative department of the Institute, especially the preparation and revision of the lists of past students.

The office will endeavor to keep up a correct catalogue of the addresses of all past students, whether graduates or non-graduates, which will be at the disposal of class secretaries and other Institute men desiring such information. Moreover, the office will undertake whatever Institute work any class secretary, other class officer, or any Technology body, may wish to have done, charging for it only the actual cost of the work. This is especially called to the attention of all past students of the alumni; and they are urged not only to avail themselves of the facilities of the office, but also to assist this work by keeping the office informed of changes of address of themselves and of other Institute men regarding whom they possess information. It is particularly desired that help should be given in perfecting the list of addresses of non-

graduates, which, necessarily, is more imperfect than is the list of the graduates.

Address, Alumni Association Office, Room 37, Rogers Building, Massachusetts Institute of Technology. (Telephone, Back Bay 2180.)

THE NORTH-WESTERN ASSOCIATION

Due to the fact that so many members of the Association have been absent from the city on account of vacations and business, it has been impossible to hold any meetings. Arrangements are afoot now for the annual fall meeting, which will be informal and with a simple program, our aim being to bring the men together for a general good time.

A club room or home for the Association is the important issue at the present time, but the diversified interests of our members make it very hard to get action on the proposition. Such headquarters should be centrally located, accessible to all, comfortably furnished, and made as attractive as possible. Our ability to maintain such a home is the vital point, and, I regret to say, it is rather doubtful, the advantages presented being few, due to the fact that our members are so scattered. Our aim at present is to draw the men together by meetings or gatherings of one kind or another, and in this way to strengthen the bond, thus enabling us to carry to completion any scheme that may present itself.

The Membership Cards, which extend to holders the privileges of other alumni societies, is a very worthy idea, and we hope the results will be beneficial in a business way as well as socially.

The announcement that our worthy president, E. H. Huxley, '95, has just joined the Benedicks, being married to Miss Josephine Eugenie Pittman on September 27, was received with great pleasure.

JOHN T. CHENEY, '03, *Secretary*,
878 South Halsted Street, Chicago.

ROCKY MOUNTAIN TECHNOLOGY CLUB.

Professor Richards, of the Mining Department, was in this city recently on business. Several of us spent a very delightful evening with him. He came freshly laden with Tech news and enthusiasm, which we greedily absorbed. He also showed us several of his own photographs of tree development in spring-time and of landscapes in New England, which were exceedingly interesting and beautiful.

While here, Professor Richards arranged with the Denver Engineering Works (F. E. Shepard, '87) for the manufacture of the Hindred Settling Classifier and Pulsator. His visit with us was not long enough for our full satisfaction, as much of his time was spent in an expert trip to Boulder County.

The Denver Engineering Works has just installed a large steam turbine pumping plant for the Denver Union Water Company, and a large steam hoist for the Victor Fuel Company, while a mill at the Gold Prince Mining Company at Silverton, Col., is rapidly nearing completion under their direction.

H. O. Bosworth, '02, *Secretary*,
1742 Champa Street, Denver, Col.

THE CONNECTICUT VALLEY ASSOCIATION OF THE M. I. T.

Correction. The meeting of May 5 was the annual meeting of the Connecticut Valley Association, and was held at the Hartford Club under the auspices of the Hartford Technology Club. The committee that was chosen was for the Connecticut Valley Association, and not for the Hartford Technology Club, as the report in the July number of the Review implied.

THE TECHNOLOGY CLUB OF NEW YORK

Our plans for the coming season include a series of Smokers, which consist of dinners and entertainments of various kinds.

We are pleased to state that during the past year our house has been full to overflowing.

Our membership is now nearly three hundred, and is increasing every month.

ALLSTON SARGENT, '98, *Secretary*,
36 East 28th Street, New York, N.Y.

MAY 28, 1906.

TO THE SECRETARY OF THE CLASS, '06.

Dear Sir,—The Technology Club of New York extends an invitation to any member of your class who may be in New York on Saturday, Oct. 20, 1906, to a Smoker and Reception to be given in honor of the class of '06 at 8.30 P.M.

TECHNOLOGY CLUB OF RHODE ISLAND

There is nothing of moment to report for the Technology Club of Rhode Island.

The only good thing to tell you is that at the last annual meeting Mr. J. O. Ames, '93, whose address is 47 Charles Street, Providence, R.I., was elected secretary-treasurer of the club, to succeed the writer. I have no doubt he will prove a better contributor to your work than the former incumbent of the office.

Other than the above, there were no changes in the officers of the club, which at present are: Fred. H. Howland, '93, president, Providence; Kenneth F. Wood, '94, vice-president, Pawtucket; secretary-treasurer as above; and these, with Professor Eleazer B. Homer, '85, and James G. Woolworth, '79, constitute the Executive Committee.

L. W. BALLOU, *ex-Secretary*,
17 Harris Avenue, Woonsocket, R.I.

TECHNOLOGY CLUB OF NEW BEDFORD.

There is a dearth of news concerning the Technology Club of New Bedford, as no meetings have been held since late in the spring,

and the members have been scattered on their summer vacations and duties.

Messrs. Allen, Akin, Hammond, and Ed. Wing have spent a great deal of the summer cruising about the bay and beyond. Stetson has just been appointed second lieutenant of the Naval Brigade. Whiton has had the pleasure of seeing the new steamer "Gosnold," which he had a hand in designing, operated this summer successfully. He is to deliver a lecture before Course XIII. men at Tech this fall.

The next meeting of the club will be held the first Thursday in November, when we hope to find new members who have taken up their residence in New Bedford since spring.

C. F. WING, JR., '99, *Secretary*,
34 Purchase Street, New Bedford, Mass.

TECHNOLOGY CLUB

On October 8, the Club held its annual meeting. After the business meeting Dr. Horace N. Allen, former United States minister plenipotentiary to Korea, gave a very interesting talk on that country.

Dr. Allen first went to Korea as medical missionary. He was appointed, after a number of years' residence, to the secretaryship of the legation at Seoul. He was advanced to the position of consul, and later raised, in McKinley's administration, to be minister plenipotentiary. He returned to this country last spring to remain. He brought with him the best single collection of Korean glazed pottery in existence.

The secretary's report contained interesting information in regard to the present membership of the club. The number of members now in good standing is 602, divided as follows: Corporation, 23; Instructing Staff, 69; graduates and former students, 478; undergraduates, 32.

The officers elected were: president, James Flack Norris; vice-president, Francis Henry Williams, '73; secretary, Angelo Tilton

Heywood, '06; treasurer, Augustus Herman Gill, '84; to the governing council for three years, Arthur Tisdale Bradlee, '88, Howard Lincoln Coburn, '87, Andrew Daniel Fuller, '95, William Elton Mott, '89, Walter Elbridge Piper, '94.

NOTE

Of the candidates taking examinations of June, 1906, for Assistant Engineers, Board of Water Supply, 150 passed, and out of the six taking highest rank five are Tech men, as follows: (1) Alfred C. Lootz, '96; (2) Russell Suter, '00; (4) James E. Barlow, '05; (5) Howard E. Smith, '96; (6) William W. Cronin, '04.

NEWS FROM THE CLASSES

1868.

PROF. ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Technology, Boston.

Hon. Eben S. Stevens has been appointed as a term member of the Corporation of the Institute of Technology.—Robert H. Richards has made a trip to Minnesota, Michigan, and Ontario with a summer school of mining students, and has also visited professionally Virginia, Colorado, and Missouri, and has made arrangements in Denver and Chicago for the manufacture of some of his designs.

1874.

CHARLES F. READ, *Sec.*, Old State House, Boston.

George B. Elliot has recently built a summer residence on the Fitzwilliam Hills, near Mt. Monadnock, New Hampshire.—Benjamin L. Crosby is at present the principal assistant engineer of the Vancouver Bridge, Vancouver, Wash.—Charles F. Read, the secretary of the Class Association, returned on July 2 from a seven weeks' transcontinental trip, in which he was accompanied by his wife. They travelled more than nine thousand miles, visiting many of the leading cities and natural wonders of the country. The secretary of the Class Association has recently issued the annual class directory. As there are naturally changes every year in addresses of members, the directory is of great service to members, especially if they remove to new localities.—The secretary, when in California lately, called upon Herbert B. Perkins, who is professor of mathematics in the Throop Polytechnic Institute, Pasadena. Professor Perkins sent by the secretary his remembrances to his class-mates of '74, whom he has not seen for many years.—Upon the invitation of the president,

George H. Barrus, a quarterly lunch of the Association was held at the Boston Club on Monday, September 24. The following members were present: Messrs. Arnott, Barrus, Blunt, E. L. Brown, S. J. Brown, Chase, G. T. Elliot, Mansfield, Nickerson, Read, Robinson, Russ, and Warren.

1882.

WALTER B. SNOW, *Sec.*, 29 Russell Avenue, Watertown, Mass.

James W. Johnson has been heard from at 912 Westlake Avenue, Los Angeles, Cal.—The class of '82 is represented in "Who's Who in America" by George L. Heins, James P. Munroe, and Walter B. Snow.—Heins and Zimmerman (who was once connected with the class) are both State architects, the former of New York, and the latter of Illinois.

1883.

HARVEY S. CHASE, *Sec.*, 27 State Street, Boston, Mass.

On Aug. 16, 1906, George H. Gustin died at the private hospital of Dr. D. T. Millspaugh at Paterson, N.J. Gustin was attacked with paresis, showing premonitory symptoms in the spring of 1905. In July the disease had become so acute that he was placed in an asylum at Morris Plains, N.J., and later removed to a sanatorium at Noroton, Conn. The expense attending his illness, together with previous serious sickness in his family, cut into his savings to such an extent that his classmates and friends were permitted to express their sorrow and sympathy in a practical manner by providing the funds necessary to make him as comfortable as possible in the midst of these misfortunes, and to assist his family. It will be a gratification to all those who contributed to this fund to know that their generosity has somewhat lightened the burdens of his devoted wife, and saved for her and his three children insurance which otherwise might have been sacrificed. Even as it now stands, the mother and children are left with insufficient means, and without immediate rela-

tives in position to care for them. The fund previously raised was expended, together with $430.87 additional, which the trustees hope will now be contributed by the same good friends and others. If each man who reads this will attempt to realize the situation, and appreciate what some similar misfortune might mean in his own case, he will be inclined to do what he can to render the conditions less onerous for Gustin's wife and family. Please communicate with the secretary of '83 or with Mr. W. E. Wadman, Elizabethport, N.J. Twenty dollars from each of twenty-five friends would be tokens of appreciative sympathy and of true desire to aid even at some personal inconvenience.

1884.

PROF. WILLIAM L. PUFFER, *Sec.*, Mass. Inst. of Technology, Boston.

Mr. C. S. Robinson has made a change in his business according to a report from the Tech Fund Committee, and is now to be reached at The Youngstown Sheet & Tube Co., Youngstown, Ohio, in place of his old location at Pueblo, Col.—Lieutenant Colonel Lyle spent a week or more in Boston during August as a member of a meeting of United States life-saving experts. The secretary regrets that he has not found anybody who saw him, and, consequently cannot give any news from him.—The Ouray *Herald* of July 20 gave a great account of a new mining tunnel which is in process of construction under the charge of W. H. Bunce. The *Herald* is greatly pleased that Bunce has returned after a number of years' absence, during which time he has been in Nicaragua and British Columbia.—Last May, Gill took a two weeks' trip West with the idea of seeing what has been done in a number of the Western institutions along the lines of technical analysis, gas analysis, and technical chemistry; also various new laboratories were inspected. The places visited were the Case School of Applied Science at Cleveland, where a fine new chemical and metallurgical laboratory is being erected, the Ohio State University, which has also just built a new chemical laboratory, Purdue University, which is about to build a new laboratory

next year, ground being already broken. From here a large new laboratory of the University of Illinois was seen, and the excellent laboratory of the University of Chicago, which in many ways was the best laboratory seen. The Armour Institute was visited, particularly the fire underwriters' laboratory, which is used in connection with the Institute in their course of insurance engineering. Thence an excursion was made to the University of Wisconsin at Madison, which is the most beautifully situated of any of the State Universities. It is also rejoicing in a new chemical laboratory. The route home lay through Milwaukee, where Dr. Levi, formerly an instructor at the M. I. T., of the Pfister & Vogel Leather Company, was visited, and the extensive tanneries of the latter firm inspected. A call was made on Professor Bigelow (M. I. T. '95) at the University of Michigan, who with others is making plans for a $250,000 laboratory, and a stop-over was made at Buffalo at the extensive plant of the Lackawanna Steel Company, which was seen with Mr. F. C. Baker (II. '94) as guide. Besides this steel company the plant of the American Steel and Wire Company at Cleveland was visited. The trip was a very interesting, instructive, and profitable one, and much was seen and learned which will be of use in his work at the Institute.

1885.

I. W. LITCHFIELD, *Sec.*, 161 Devonshire Street, Boston.

"Tracy Lyon, whose resignation as assistant general manager of the Chicago Great Western Railway to accept a position with the Westinghouse Electric and Manufacturing Company was noted lately, is forty-one years of age, having been born at Oswego, N.Y., in 1865. He is a graduate of the Massachusetts Institute of Technology, and prior to entering railway service in 1894 was a member of the firm of Robert Bement & Co., engineers and contractors of St. Paul, Minn. Mr. Lyon held the position of master mechanic of the Chicago Great Western from 1894 until July, 1899, when he was appointed general superintendent of the same road. He continued in that position until March, 1902, at which time he was

appointed assistant-general manager. He is a member of the American Society of Mechanical Engineers."

1887.

EDWARD G. THOMAS, 4 State Street, Boston, Mass.

William H. Brainerd was married to Miss Mary Bowen, of Centreville, Ohio, on Sept. 22, 1906.—Stoddard has been appointed superintendent of the new mill of the Plymouth Cordage Company at Welland, Ontario. He expects the mill to start next month. —Gelett Burgess has become an associate editor on the staff of Ridgways, publishers of *Everybody's Magazine*, and will be henceforth at 31 East 17th Street, New York. He is to direct a department comprising all the lighter features, humor, poetry, etc., of the new weekly paper which Ridgways is shortly to publish. This paper is to be published simultaneously in fourteen cities, each city having its own staff and its own eight pages of local news and comment. Editorial news of general character is to be telegraphed at the last minute. Burgess's novel, "The White Cat," which appeared in a recent *Smart Set*, will be printed in book form in the spring by the Bobbs-Merrill Co., and his "Sulphate Theory," or "Are you a Bromide?" is to come out as a little book in October, printed by B. W. Huebsch in New York.—Solomon Sturges was very badly injured in an automobile accident in Evanston, Ill., on September 15. He was in the touring car of Mr. James O. Hayworth, and a newspaper report states it was being driven very rapidly, in the early evening, without lights, and ran into the side of a touring car driven by Mr. J. F. Kahlwegan. All parties in both cars were hurled to the ground, and Mr. Sturges and Mr. Hayworth were both rendered unconscious. Mr. Hayworth was not badly injured, and is on the road to recovery ; but Mr. Sturges apparently struck upon his head, and probably fractured his skull, besides receiving serious other injuries. At the time of writing, October 15, Mr. Sturges is reported to be physically improving; but the outcome of the injury to his head is yet problematical, as

his condition has been such as to render it impossible to investigate the wound thoroughly.

1888.

WILLIAM G. SNOW, *Sec.*, 1108 Penn Mutual Building, Boston, Mass.

Sam Wheeler, superintendent of Water Works, Ashland, Wis., spent the summer with his family at his old home in Concord, Mass.—William G. Snow attended the summer meeting of the American Society of Heating and Ventilating Engineers held in Chicago in July, and read a paper on Feed Water Heaters.—Harry C. Moore is with the firm of Clinton & Russell, architectual engineers, 32 Broad Street, New York, N.Y.—Clarence B. Vorce is in for himself as a consulting engineer, making a specialty of bridges. He is located at 15 William Street, New York, N.Y.—G. U. G. Holman has returned from Canada, and is located on the twenty-first floor of the Land Title Building, Philadelphia, with an office also at 180 Broadway, New York City. He is vice-president of the Public Service Investments Company, which is a holding company for five railroads and four railways, Pennsylvania corporations, which are engaged in constructing a standard railroad operated by electricity between Philadelphia and Phœnixville, Pa. He is also president of the Denbeigh Construction Company, which has assumed the contract for this construction.

1889.

PROF. W. E. MOTT, *Sec.*, Mass. Inst. of Technology, Boston.

The Committee on Publication reminds us that "the comparative leisure and the journeying of Institute men" should put us in possession of many news items. That '89 men have reached a point in their careers when "comparative leisure" is possible may be shown by the many positions of responsibility which they

hold. At any rate, they have all taken to the woods at this season of the year, and do not show any disposition to give up the secrets of their favorite haunts.—At one of the last meetings of the M. I. T. Civil Engineering Society for the year 1905–06 W. M. Beaman, of the United States Geological Survey, explained the theory and method of application of a device which he has recently invented. It consists essentially of such a modification of the vertical arc of the ordinary engineer's transit that both the field and office work involved in stadia surveys are much simplified, and the danger of error in reading small plus or minus angles is largely eliminated. The mechanical side of the problem is being worked out with the co-operation of Messrs. Gurley, of Troy, N.Y.—The July number of the REVIEW contained a reference to work which Kilham & Hopkins have been doing for ex-President Cleveland at Tamworth, N.H. In a recently published pamphlet from the office of the Secretary of Agriculture, Concord, N.H., entitled "New Hampshire Farms for Summer Homes," may be found excellent illustrations of Kilham's work at Tamworth, as well as a sketch of a bungalow, by the same firm, for Dr. John H. Finley, president of the College of the City of New York. Mr. Kilham has himself become one of a group of summer residents in Tamworth, which Mark Twain refers to as "Outliars," and "The Clearing" is thus described:—

For twenty years this sequestered farm lay hidden at the end of a long wooded lane. Its very remoteness had caused its abandonment by its last occupant. It was forgotten by all but the stray cows that sought shelter from the rain under the tottering roof, and the young saplings that took root under its walls grew to splendid trees before the future owner, in the course of a chance snowshoeing expedition, happened upon the little cabin and saw its latent possibilities.

The great hand-hewn beams and weather-beaten interior were an effective beginning for a picturesque living-room, which by the removal of the second floor was made to extend to the century-old rafters.

The fallen chimney was rebuilt and the great fireplace restored, and a photograph of an old English cottage interior gave the motif for the inglenook and the two huge settles on either side of the fireplace. The old

kitchen had been removed to furnish materials for a sugar house, so a rambling addition was put on to supply its place.

A judicious trimming of the undergrowth and superfluous trees revealed a superb view of the entire Sandwich range, where only Chocorua was visible before, while from the lattice porch a very little cutting disclosed a twenty-mile reach of the Ossipee valley, which bursts upon the visitor as he emerges from the half-mile wooded lane which leads in from the highway.

A patch of poppies and old-fashioned flowers by the sunny doorway gives a note of color to "The Clearing" that in former times was given by the cinnamon rose bushes that still bloom under the south windows and form a pleasant link with the life of the past. Thus, at a trifling outlay, an abandoned ruin in a useless pasture has been changed into a comfortable and attractive summer home, which is a source, not only of health and pleasure, but produces garden stuffs and maple syrup sufficient for its numerous family of occupants.

—Whipple, busier than ever with his consulting work, has recently returned from a trip abroad, taken in the interests of the city of Paterson, N.J., in order to study first hand the newest methods of sewage disposal. The following articles—"The Advance in Sewage Disposal," "The Use of Disinfectants as a Means of Purifying Water," and "The Value of Pure Water, a Financial Study of the Subject," etc.—furnish abundant evidence that Whipple is in the forefront when sanitary matters are under discussion. His book, "The Microscopy of Drinking Waters," is being translated into the French, and is no doubt destined to become a standard work on both sides of the water. As Consulting Professor of Sanitary and Industrial Water Supply, at the Polytechnic Institute of Brooklyn, Whipple will this winter give a course of lectures on Water Supply and Sewage Disposal.—Hollis French spent two months abroad this spring, partly on pleasure and partly on business. The firm of French & Hubbard is at present engaged upon ventilating, heating, and electrical problems in connection with the new Boston Art Museum, the Franklin Union Building, and the First National Bank. A new steam turbine generating station and a sub-station at Fall River are well under way, and the Sewall's Falls Plant, where an unusual hydraulic turbine equip-

ment was installed, is nearly ready for testing.—The family of our former classmate R. L. Russel have recently given the sum of two thousand dollars, the interest of which is to be awarded as a prize to a student of high standing in the fourth year civil engineering class. It is likely that the terms of the gift may be so worded that it will become a fellowship to be given every third year instead of yearly.—Professor Thorp, as in former years, directed the two weeks' trip of the students in the Summer Course in Industrial Chemistry.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

William Parker Flint and Mrs. Arabella Horton Jackson were married July 9 at Westerleigh, Staten Island, N.Y.—C. W. Rice's address is now American Society of Mechanical Engineers, 12 West 31st Street, New York, N.Y. The following is from the *Electrical Review* for July 7, 1906:—

Calvin W. Rice has accepted the position of secretary of the American Society of Mechanical Engineers, which was offered him by a vote of the council some time ago, and entered the service of the society on July 1.

After graduation he entered the employ of the General Electric Company, working up to the position of assistant engineer of the power and mining department, which he retained until 1895, when he was appointed local engineer at Cincinnati, Ohio, for the General Electric Company. In 1895 and 1896 he was electrical superintendent of the Silver Lake Mines, Silverton, Col., and later was connected with the Anaconda Copper Mining Company. In 1898 he was electrical engineer of the Kings County Electric Light and Power Company, Brooklyn, N.Y., and soon after became electrical engineer of the Consolidated Telegraph and Electrical Subway Company, owning and operating the high-tension subways of New York. He has been chief of the meter and testing department of the New York Edison Company, and second vice-president and sales manager of the Nernst Lamp Company. Since 1904 he has been a consulting engineer with the General Electric Company.

Mr. Rice is a member of the American Institute of Electrical Engineers,

the American Society of Mechanical Engineers, the Institution of Electrical Engineers of Great Britain (having been proposed by Lord Kelvin), a member of the American Association for the Advancement of Science, the Society of Colonial Wars, and several other organizations.

Mr. Rice's wide experience in handling large organizations and his keen appreciation of the possibilities of co-operation among the national engineering societies are indeed fortunate in view of the closer relationship which is existing among these organizations at the present time. Mr. Rice, it would seem, enjoys the unique distinction of being the man for the place both by training and by nature, and there is no doubt that he will prove a worthy successor to that faithful and beloved genius, Professor Hutton, who retires after a long and faithful service which will always stand as a monument to his integrity and character.

—Charles H. Alden's address is now Pasadena, Cal.—A. W. Woodman's address is 1111 Hinman Avenue, Evanston, Ill.—W. B. Poland, member American Society of Civil Engineers, who resigned from the Alaska Central Railway on September 1, has been elected vice-president and chief engineer of the Philippine Railway Company. He will sail for Manila about November 1, to take charge of construction and other interests for the syndicate which is building railroads for the islands of Panay, Negros, and Cebu. His address is 43 Exchange Place, New York, N.Y., and Manila, P.I.

1892.

PROF. WILLIAM A. JOHNSTON, *Sec.*, Mass. Inst. of Technology, Boston.

Ambrose Packard, of the firm of J. S. Packard Dredging Company, Providence, R.I., writes:—

I hear from Newkirk and Ober occasionally, but nothing new. Newkirk is mechanical engineer for the Buhl Malleable Company of Detroit, and Ober is junior engineer at United States Engineer Office, Newport, R.I., and is in charge of fortification work in that district.

A trip to Cuba last winter, the arrival of a second son in my household,

and the building of a large dredge at Chelsea, Mass., have kept me busy for the last six months.

—W. R. Kendall, of the firm of Weeks & Kendall, consulting engineer, Kansas City, Mo., writes:—

I have been a very busy person for the past two and a half years. . . . Had two estates to look after. . . . Returned from a six weeks' trip through the West, including Seattle, Portland, San Francisco, and Los Angeles. Then had a three weeks' trip in Mexico, in Southern Sonora. Those three weeks were the hardest I ever spent. I had a 208 mile stage ride from Guaymas to Alamos, and then 45 miles on a mule through the mountains. I went for a party to examine some placer gold properties, to see if certain machinery they were interested in would be suitable to operate the properties. I lost about ten pounds during those three weeks, and I was very glad to set foot again on Uncle Sam's soil.

Probably he made up the ten pounds before sending out the following announcement: William Roy Kendall married to Caroline Elizabeth Bing on Wednesday, July 4, 1906, at Mansfield, Ohio.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston.

Frank S. Badger, lately of San Francisco, is located in Mexico, his address being Apartado 291, Monterey, Mex.—Shortly after the announcement of their engagement, John Cotton Clapp, Jr., and Miss Amy Leah Crosby, daughter of Mr. and Mrs. George Edwin Crosby, were married at the Baptist Church, West Medford, Mass., 4th of September. Mr. and Mrs. Clapp will reside at 42 Salcombe Street, Dorchester, Mass.—Herbert N. Dawes has been spending the summer in Europe, and was expected to return early in October. One of his recent letters was from Rome.—The *Harvard Graduates' Magazine*, in its June number, contains a long illustrated description of the mechanical plant of the new Harvard Medical School, by Densmore and Le Clear, who were the engineers for the work. Of his firm, E. D. Densmore, '93, is the senior member.—Emil Lorch,

formerly engaged in teaching art at the Drexel Institute, Philadelphia, has recently gone to the University of Michigan. His address is 514 Brush Street, Detroit, Mich.—The address of A. T. Marshall is 81 Andrew Road, Swampscott, Mass.—E. E. Pettee, for many years principal assistant to J. R. Worcester, consulting engineer, Exchange Building, Boston, has recently been admitted to partnership in the new firm of J. R. Worcester & Co., consulting engineers for steel and reinforced concrete structures and foundations. The firm has taken new offices in the Post-office Square Building, 79 Milk Street, Boston.

1894.

PROF. S. C. PRESCOTT, *Sec.*, Mass. Inst. of Technology, Boston.

Among the June weddings was that of H. W. Gardner and Miss Celia Brophy. They spent a portion of the summer at Milton, N.H., where Gardner designed and has just built a very attractive summer cottage.—T. G. Richards has left, or is about to leave, the position he has held as superintendent of the Boston Woven Hose Company at Cambridge, and enters the field as a manufacturer at West Brookfield.—C. G. Whiton has recently designed and superintended the construction of a new boat for the New Bedford, Martha's Vineyard & Nantucket Steamship Company, of which he is the treasurer and general manager.—A son, Darragh DeLancey, Jr., was born to Mr. and Mrs. D. DeLancey on June 18, and about the same time a young daughter blessed the home of Professor and Mrs. B. G. Haven.—After many years in Mexico in mining work, Schiertz has returned to the States, and is now located at the Gould Mines Company, Gould, Mont.—Horton has been appointed engineer of the Department of Health of New York State, with headquarters at Albany.—Patch is still with the United States Irrigation Service, but has been transferred from Belle Fourche to Orman, S.D.—The secretary recently had the pleasure of meeting Duckworth on the train, and passing a pleasant hour with him. In addition to his work as chemist for the Cocheco Company, he has become an enthusiastic farmer and a devotee of horseback

riding.—McGoodwin has been recently married. He was in Boston during a portion of the summer, and he spent some time in the Architectural Department of the Institute. He is now located at Pittsburg as instructor in architecture in the new Carnegie Technical School.—McClure spent a portion of the summer along the North Shore.—Piper and Tenney have been to Canada on a fishing trip, and report a good time and excellent sport.—F. S. Hitchcock was in Boston recently, looking for assistants for the New Manual Training High School of New London, Conn., of which he is principal.—Thorndike has terminated his connection as instructor at the Institute, and returns to the engineering department of the city of Boston.—Swanton is engaged in the manufacture of a small engine which he has designed.—McKibben has been promoted to Associate Professor of Civil Engineering.—H. N. Parker has recently been transferred to Lawrence, Kan., for the study of some special hydrographic problems for the United States Geological Survey.

1895.

H. K. Barrows, *Sec.*, 6 Beacon Street, Boston, Mass.

F. W. Harris is now assistant engineer on the New York State Barge Canal with headquarters at Albany, N.Y.—Several '95 men have spent some of their vacation in yacht racing this summer.—W. T. Hall has been at the North Shore; also A. C. Jones with his 22-footer, the "Nutmeg," and Sumner Foster with the "Tyro." F. H. Tillinghast has been busy in a similar way at Marblehead. G. W. Hayden is now at 728 Oliver Building, 141 Milk Street, Boston.—G. H. Matthes reports change of address from Carlsbach, N.M., to Rupert, Ida. He is still engaged upon his duties as engineer in the United States Reclamation Service.—J. T. Dorrance was married to Ethel Mallinckrodt, of Baltimore, Aug. 18, 1906. He is one of the few Ph.D.'s on our class list, and, since returning from Germany in 1897, has been with the Joseph Campbell Company at Camden, N.J., as chemist, and is now treasurer of the company.—Wedding announcements are also at hand at the time of going to

press of E. H. Huxley and Miss Josephine Eugenie Pittman at Bonnie View, Boscobel, Wis., on September 27. Mr. and Mrs. Huxley will be at home after November 10, at 1003 Grove Street, Evanston, Ill.—Announcement is also made of the coming wedding of Bertrand Clergue and Miss Margaret Murray Roscoe to take place on October 3 at Horn Hill Court, Chalfont, St. Peter, Bucks. Mr. and Mrs. Clergue will reside at Sault Ste. Marie, Ontario.—J. H. Gregory reports great activity at Columbus, Ohio, on the improved water and sewage works of which he is engineer in charge. He promises to give us a brief description of this important piece of work, and how '95 Tech men are connected with it a little later on.—F. E. Matthes writes the secretary as follows:—

FORT ROSS, SONOMA CO., CAL.,
July 3, 1906.

Believing that my work in connection with the earthquake investigations by the California State Commission may prove of interest to the class, I enclose accompanying account for publication in the TECH REVIEW. Was sorry, by the way, that I was unable to come over for the class reunion.

I have reasons to congratulate myself on the opportunities afforded me lately to study the recent earthquake in all its phases. I was at Berkeley on the day of the calamity, and got the full benefit of the shake, to begin with. Never having experienced an earthquake before, I calmly remained in bed, unalarmed, and let it shake. This must be a fair sample of the famous California earthquakes they all talk about, thought I. Little did I realize then that I was witness to an unparalleled catastrophe, and still the less did I anticipate subsequently to play a part in tracing the origin of the disturbance.

For the past two months—ever since May 1—I have been in the field for the State Earthquake Investigation Commission, gathering data regarding the results of the earthquake, and, above all, tracing out the great "fault" which was the immediate cause of it all. This "fault," as is beginning to be popularly understood now, is a gigantic fracture extending thousands of feet down into the earth's crust, along which a sudden shearing of the rocks has taken place. This particular "fault," which passes within a few miles of San Francisco, but not through it, has a general bearing of N. 30° W., roughly parallel to the west edge of the continental shelf. The movement, or slipping, which produced the jar that threw down San Francisco was a

horizontal one, the coast strip west of the fault having apparently moved north past the rest of the continent by an amount of some sixteen feet. These sixteen feet, be it well understood, are not a mere matter of conjecture, but are measurable in hundreds of places. Offsets of that amount in fences crossed by the fault are perhaps among the most conspicuous and convincing evidence of the movement. By them, as well as by the ploughed up appearance of the ground along the fault line, the latter is distinguished from the innumerable cracks and rents in the hillsides which were produced by the quake, and by them it has been traced both to the north and south of San Francisco over an aggregate distance of some two hundred and sixty miles. It is the north half of this line, from Fort Ross, Sonoma County, north, that I feel responsible for.

For more than a month in all I have been knocking around in a rough-and-ready way through the coast ranges of Sonoma, Mendocino, and Humboldt Counties, always in pursuit of the fault. I have not kept count of the mileage, but I am sure it would be an interesting total, some of it made by rail and steamer, but most of it by stage, on horseback, and on "footback,"—in fact, by every available means of conveyance except automobiles, the latter being at a distance in the backwoods of northern California, where the Overland Mail stage ploughs wearily, hub deep, through the mud at a rate of three miles an hour.

To most people it seems as if the earthquake was most violent and destructive in and around San Francisco, but such, most fortunately, was by no means the case. To get a true appreciation of the destructive force of the quake, one must follow the fault itself through the redwood forests where thousands of trees broke off, split a hundred feet from their base up, or were totally uprooted. One must see the enormous landslides, leaving the mountain sides bare and clean swept over thousands of feet in height, and the great masses of jumbled débris, rocks, and trees along their base, advancing like promontories into the ocean. These are things which it is difficult to adequately describe and impossible to conceive of without having actually seen them.

Of the many remarkable sights on these trips I cannot begin to tell you. A few samples must suffice.

A logging railroad in the immediate vicinity of the fault had its track jammed together lengthwise with such violence as to cause the rails to bend sharply out of alignment in a dozen places, the sharpness of the kinks being sufficient to cause the snapping of the fish-plates in one place and the actual rupture of both rails in another.

The great wagon bridge over the Gualala River was found in a sad plight. The entire approach on the south bank, some five hundred feet long and originally resting on wooden trestles twenty feet high, was lying flat, an utter wreck; and the south end of the main span, a four hundred foot trussed through bridge, had likewise fallen twenty feet, but its north end was still in place. The river being unfordable, and the main span practically uninjured, if inclined, a roadway was cut through the dense timber of the river bottom alongside of the ruined approach leading to the span, and the latter was daily traversed by the mail stage. Going south, we had to put on the brakes.

Another bridge, the only one I found astride of the fault, had been so completely smashed that it was difficult to make out from the mangled remains in the creek bed what sort of a structure it really had been. Even the tension rods had parted. A large dairy barn near Point Arena was found squarely on the line of the fault. There were twenty cows in it at the time of the quake and a party milking. Somehow they all escaped unhurt, but there was very little barn left.

The trip was not altogether without danger. Walking along the Humboldt coast between precipitous landslides on one side and roaring breakers on the other (there is little or no beach at high tide), I felt a mild afterquake. Instantly every bird flew, and a few seconds later all the landslides for miles along the coast began to slide once more. I was fortunately in a favored spot, but I had to dodge several rocks none the less. They bounded clear across the narrow beach and into the breakers, and running was out of the question. As soon as the bombardment in my vicinity ceased, I managed to photograph the great dust clouds which were whirling up from the larger slides and hung over the mountain sides like fog banks.

At present I am making a detail map of a strip of typical "earthquake topography," as we call it here, along the fault near Fort Ross. For, it must be explained, the recent slip took place along a belt of faulting which has seen much more extensive displacements in the past, many of which are recorded in the topographic features of the country.

In a few days I expect to return to the Yosemite Valley, where I shall spend the summer completing the special map I began last year.

—From time to time '95 men figure in real estate transactions about Boston, the latest noted being the sale of a lot of land on Beacon Street to A. Geiger, Jr., who proposes to build an attractive eight-

story building suitable for doctors' apartments.—E. J. Loring has invented the Loring speed gauge for automobiles. This seems to be an accurate and reliable instrument of its kind, and '95 men, at least, have no further excuse for exceeding speed limit laws.—W. S. Rhodes is with the United States Engineer Corps at West Point, N.Y., where extensive improvements are being made.—To make our '95 alumni news column what it should be, we must have a larger number of brief statements about the different men and what they are doing. It is not necessary to spend a day in writing an elaborate article on your work or on class news that may have come to your attention. One or two minutes' thought, and as much time spent in dictation, will provide ample material for such items as we can place in the REVIEW. Send in your remarks in as rough a form as you please. The secretary will be only too glad to spend the time required in editing them for the REVIEW. Remember that your classmates, many of whom are far away and able to attend class reunions but infrequently, are always interested in this column. For the greater part of the class it is the only means we have of keeping in touch with individual and class doings.

1896

EDWARD S. MANSFIELD, *Sec.*, 70 State Street, Boston.

The work on the '96 decennial catalogue is progressing, but not as rapidly as is desired, the delay being due to the delinquency of the men in sending in the data which has been asked for. We have already received replies from about one-third of our number, and we are anxiously waiting for the remainder. Mr. '96 man, if you have not already done so, won't you please send to the secretary this data at once, so that the book may be published during the year of our decennial?—On May 1 F. E. Field was appointed principal division engineer of the Bureau of Filtration at Pittsburg, Pa.—F. E. Foster, of Atlanta, Ga., was married to Miss Ethel Taylor Fisher, of that place, on Aug. 25, 1906. They are to reside in Atlanta.—W. M. Partridge, formerly rector of the First Episcopal

Church in Peabody, has accepted a call to the parish in Beverly, Mass.—R. T. Starr was married on June 7, 1906, to Miss Alice G. Proctor. His home address is 16 Montgomery Place, Brooklyn, N.Y.—J. A. McKay is connected with James McKay & Co., manufacturers of chains and forgings at Pittsburg, Pa. His address is 421 Wood Street.—Captain W. H. Clifford, of the United States Marine Corps, is in command of the American Legation Guard at Peking, China.—Norman F. Rutherford reports his changed address as follows: Apartado 62 Saltillo, Coah., Mexico.—A son was born to Mr. and Mrs. J. H. Knight on Friday, September 28, 1906.—M. J. Strum, architect, of Chicago, Ill., writes that he has two candidates in his family for a B.S. at Tech,—one about a year old, and one who arrived this summer. He also writes that he has a book under preparation, together with Albert J. Ochsner, M.D., entitled "The Organization, Construction, and Management of Hospitals." The work is expected about January 1.—C. E. Wentworth has resigned his position as lieutenant in the Corps of Civil Engineers, United States Navy, stationed at Guantanamo, Cuba, to accept the position of chief engineer of the Scofield Company, consulting and constructing engineers of Philadelphia, Pa. His home address is 216 Bloomingdale Avenue, Wayne, Pa.—J. W. Campbell, of the Pennsylvania Steel Company at Steelton, Pa., has just returned from a three months' vacation trip in Europe.

1897.

JOHN A. COLLINS, Jr., *Sec.*, 74 Saunders Street, Lawrence, Mass.

Roger F. Hosford (V.) was married on Tuesday, Sept. 11, 1906, to Miss Lillian Canavan, of Hollis, N.H.—Walter Humphreys was married on Wednesday, July 18, 1906, to Miss Victoire Elizabeth Casgrain, of Evanston, Ill.—A daughter, Mary Erwin, was born in May to Mr. and Mrs. Jay E. Tone, of Des Moines, Ia.—Carroll A. Capen (X.), of Randolph, Mass., is with Mackenzie & Winslow, wholesale grain merchants of Fall River, Mass.

1898.

PROF. C.-E. A. WINSLOW, *Sec.*, Hotel Oxford, Boston.

E. F. Ayres has moved from Augusta, Me., to Rensselaer, N.Y., where he is engaged in work on the New York Barge Canal. His address is 1344 Second Street, Rensselaer, N.Y.—Brewster sends a card from Pinar del Rio, Cuba, in which he announces the birth of a son, William Brewster, Jr., on Sept. 18, 1905.—Bleecker was married July 3, and the following excerpts are taken from the account of the ceremony as published in the Nashville *Banner:*—

A marriage which was one of the notable social events of the year and exceptionally beautiful in all its arrangements was that of Miss Anna Webb Parks and Mr. John Stearns Bleecker, which took place at 7.30 o'clock at the home of the bride's parents, Mr. and Mrs. Hamilton Parks, on West End Avenue. The impressive ceremony, performed by Dr. J. E. Clarke, was witnessed by 150 guests, among whom were a number from a distance, including Mr. Bleecker's parents, Rear-Admiral J. V. B. Bleecker, United States Navy, retired, and Mrs. Bleecker, of Boston.

The Parks home has been in the past the scene of many charming hospitalities, but the wedding last evening was in plan of exceptional beauty. The house was a floral bower, hangings of vines over the doorways, palms and flowers being arranged with perfect taste. In the drawing-room, where the prevailing color note is green, stands of pink gladioli made a pretty color contrast, and elsewhere in the house white blooms were used. The chandeliers were wreathed with feathery asparagus fern, and the stairway down which the bridal party entered was hung with vines, with stalks of gladioli on the newel electrolier. From the end of the stairway white satin ribbons entwined with vines were held by the groomsmen, Messrs. Glenn Parks, Frank Harris, Charles L. Eastman, Harding Jackson, of Nashville, W. I. Sturdevant and Will Webb, of Paducah, Ky., making an aisle for the passage of the bride and her attendants.

The matrons of honor, who entered singly, were the bride's aunt, Mrs. Robert Phillips of Paducah, Ky., and her sister, Mrs. Houston Fall, of El Paso, Tex. Mr. Parks gave his daughter away, and Mr. Bleecker, with his best man, Mr. Avery Robinson, of Louisville, awaited the bride at an altar of palms starred with white lilies, with white satin prayer cushions. This

altar was erected at the end of two connecting reception-rooms, decked with lilies, roses, and gladioli, and the bridal tableau was exceedingly beautiful.

Mr. and Mrs. Bleecker left last night for a week's stay in Asheville, N.C., *en route* to Morristown, N.J., to visit the former's relatives and New York. Before returning to Paducah, Ky., where they will reside, August 1, they will visit Admiral and Mrs. Bleecker at their summer home in Jamestown.

—Danforth's marriage, which took place Dec. 21, 1905, has by some oversight not before been recorded in this column.—Winslow's engagement to Miss Anne Fuller Rogers, of Boston, was announced October 6.—Goddard has returned from Mexico, and is with the St. Joseph Lead Company at Herculaneum, Mo. He writes, "Sorry not to be able to come to Boston this year, but I surely will be on hand for any doings in 1908."—C. W. Wilder has changed his address from 91 Pineapple Street to 218 Sixth Avenue, both of Brooklyn.—Hurter left Oregon in April, and spent the spring with the Esperanza Mines Company at San Diego, Cal.—Snelling annouuced his engagement to Miss Eleanor G. Goodwin, of Concord, Mass., in September.—Pratt came East in September for the convention of the New England Water Works Association. He was happy over the birth of a son on August 13.—Monteith has crossed the continent, and is now with the Lewiston, Clarkston Company at Clarkston, Wash.—Treat was married at Livermore Falls, Me., on July 18, to Miss Elsie Mabel Reynolds, daughter of Dr. Henry Reynolds.—Godfrey had a review of modern progress in municipal engineering, under the title "City Water and City Waste," in the September number of the *Atlantic Monthly*.—F. S. Tucker has left New Jersey to fill a position with the Westinghouse Electric and Manufacturing Company at the North Carolina office of that company, Room 507, Trust Building, Charlotte, N.C.—One of the most attractive country houses recently built near Boston is that of A. H. Higginson, M. F. H. of the Middlesex Hunt Club, designed by Putnam & Cox.—Gardner is in Boston once more as advertising manager of *Ridgways*, a weekly which is to be published from 170 Tremont Street. The new publication is to be issued simultaneously in fourteen cities, each locality

having a certain number of pages devoted to its own particular news and thought. The magazine will contain as well editorials and special articles of national interest, fiction, humor (edited by Burgess, '87), and cartoons. Under the plan of publication it will be possible to edit all these departments up to within twenty-four hours of its appearance on the news-stands. Another feature is a Washington department, in which twelve special correspondents, each assigned to one of the departments of the government, will review the work of those departments in an independent manner.

1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston.

Thomas Frank Lennan and Miss Charlotte Elizabeth Gregg were married at Joplin, Mo., on June 27, 1906.—Hans P. Jensen, who was formerly located in Roanoke, Va., has recently moved to Chicago.—William L. Morris was married to Miss Catharine Winifred Grey at Washington, D.C., on June 13, 1906.—Lyman P. Hapgood has recently made a change, and is now superintendent of the Springfield Water Company, Springfield, Mass.—The secretary received a call from Albert F. Nathan a short time ago. "Willie" was looking both fat and happy. Since graduating he has had considerable experience in patents. He has been one of the assistant examiners in the United States Patent Office, later in charge of the Montreal office of Fetherstonhaugh & Co., patent attorneys. He is now in business for himself in New York City as attorney-at-law and solicitor of patents.—Etheredge Walker writes that he has made another move, and is now at Yreka, Cal.—John L. Tufts has returned to Boston, and is associated with Herbert S. Kimball. They are engaged in chemical engineering and mill architecture, and have offices in both Boston and New York.—Gerald B. Street is with the Imboden Coal and Coke Company, Imboden, Va. He was formerly connected with the Calumet and Arizona Mining Company at Bisbee, Ariz.—Benjamin P. Haseltine has recently been transferred from McKeesport, Pa., to Wheeling, W. Va. Haseltine is with

the National Tube Works.—Clifford M. Swan has spent the greater part of the summer camping out with the Appalachian Mountain Club, of which he is a member, at one of their camps, "Three Mile Island," Lake Winnepesaukee, N.H.—Miles S. Sherrill and Professor Noyes, of the Institute, have spent the larger part of the summer cruising along the Maine coast. At different points they picked up friends and gave them short cruises, thus making the trip doubly enjoyable. Sherrill wound up the summer at Marshfield, his old stamping ground. He is brown as a nut, and is looking and feeling fine.

1900.

R. WASTCOAT, *Sec.*, Dedham, Mass.

The secretary received a letter recently from the Committee on Publication, stating that, as this was the vacation season, they hoped that it would be possible to have a large number of items of interest for the class news. The Committee on Publication may find time to have vacations, but with the secretary it has been otherwise. So far, he has had one day off, and took a trip on the Provincetown boat, and, owing to the rough sea, the sights provided would more than make up for those usually seen on an ordinary two weeks' trip. It is needless to say that the secretary was unaffected. He has a large amount of modesty, as probably by this time the readers of these items will have found out, as he has never inserted any news about himself. But now he is going to do the opposite, and, also, instead of leaving it to the last, is going to put it in first. He does not offer it as an apology for not having a large number of items of interest, but hopes that it will be accepted as such. Most of the men acquainted with him are aware of the fact that Ellis (V.) and Chalmers (X.), both being members of 1900, are associated with him in a corporation under the name of Ellis-Chalmers Company, which is marketing Ellis's inventions in the chemical line. The principal product is a paint and varnish remover. This was invented and patented by Ellis in 1902, patents being taken out in this and foreign countries. Before Ellis's

invention, all paint and varnish removers were either of a carbolic acid or an alkaline or potash nature, and were very unsatisfactory to use, being injurious to the hands and wood. Ellis produced the first satisfactory neutral paint and varnish remover. After this had been placed on the market and proved successful, the patents were infringed by a large number of manufacturers. For the past two years, litigation in regard to these patents has been in progress, the final outcome being that in August the court upheld the Ellis patent, making it a basic patent which covers the field of neutral paint and varnish removers as now manufactured, and Ellis's name is now known throughout the paint and varnish trade of the United States. The successful outcome of this litigation has made strenuous times for all three concerned, and accounts for the small amount of time that the secretary has had to collect class news.—Morris Whitehouse, who was connected with our class in the Course of Architecture, is to go abroad this year on the new Fellowship in architecture.—D. S. Johnson (III.) is now connected with the Tonopah Mining Company's mill at Millers, Nev. His former address was with C. C. Moore & Co., Tonopah, Nev.—Walter Clark Dean (VI.), who has been electrical engineer at the Norfolk Navy Yard, is now established as a consulting engineer in Norfolk, and is located at the Bank of Commerce Building. Dean predicts that Norfolk will be one of the largest cities on the coast, and advises any one who can to locate there. He believes, not only in locating there himself, but also in adding to its population, for this spring he reported the arrival of a "little Dean." We wish Dean success in his new line of work, and also congratulate him on the happy event.—
—Robert S. Blair (VI.) is established as a lawyer at 60 Wall Street, New York, and is making a specialty of patent work. Blair's family has been increased from two to three by the arrival of a baby, at the present writing three days old. We extend our congratulations.—Zeigler (II.), who has been connected with the Western Electric Company, with headquarters at New York, is now located in Laconia, N.H., and is with the Mayo Knitting Company as general superintendent of their factory.—Walworth (II.) spent his vacation this summer in the White Mountains, stopping off one day at Laconia,

and calling on Zeigler. He reports him as getting along finely.—Oxnard (I.), who has been down in Mexico, has decided that the States are good enough for him, and his new address is now Norway, Me.—Ripley (V.), who has been studying at the University of Heidelberg, Germany, for a doctor's degree, has returned, and his address is now Andover, Mass.—Charles J. Davis (I.), who was connected with our class for a couple of years, is working for the New York, New Haven & Hartford Railroad, and his address is 19 Columbus Park, New Rochelle, N.Y. Davis writes that he is very busy, and has a wife and two fine boys: one two years and the other two months old. Between the two boys and the railroad, we should imagine he might be busy.—Russell (I.) has joined the Corps of Coast Artillery, and has the rank of Corporal. He is connected with the non-commission staff, and performs the duties of orderly. Russell has quite a record for shooting, and is among the best marksmen of the corps.—Warren (II.) has been keeping house at Winthrop for the past summer, and is connected with Dean & Main. He has made a specialty of concrete work, and was connected with the concrete construction of the Beverly plant of the United Shoe Machinery Company. He had charge of the concrete construction in the new Wood Worsted Mill at Lawrence, Mass., which is the largest mill of its kind in the world, being over a quarter of a mile long.—Vogel (I.) is connected with the Lackawanna Steel Company at Buffalo as master mechanic of the coke department. He managed to break away for a couple of weeks, and came East to visit his family and also make the secretary a call. Vogel says he has his hands full in this position, and is oftentimes obliged, owing to breakdowns, to be on duty for thirty-six hours at a stretch.—F. E. Everett (I.) is inspecting State highways for the New Hampshire Highway Commission, and is located with headquarters at Concord.—D. E. Maxfield (II.) on October 1 will be connected with the D'Olier Engineering Company of Philadelphia, who do a general engineering and contracting business, putting in power plants, etc. Maxfield has been connected with the Sturtevant Company at Hyde Park.

1901.

R. H. STEARNS, *Sec.*, 15 Beacon Street, Boston, Mass.

The class of 1901 met last June, for their fifth anniversary reunion, to find their ranks much depleted by the exodus westward. Sixteen men met at the dinner. Vice-President Campbell presided, Brush and Freeman talked, and the secretary exhibited an empty purse. Messrs. G. W. Allen, Boyd, Brigham, L. D. Chandler, Farnham, Hall, Monaghan, Perry, Scully, Sweetser, and Williams formed the complement of the party. The annual election raised Charles F. F. Campbell (IX.) to the pillar of the presidency, and forced the secretaryship on the above-signed. The statistics of the class (an abstract of which is given below) was read in detail, and showed '01 was making her way in the world. The appeal for some sentiment for the occasion roused the class bard, E. H. Davis, now professor at Purdue, and he responded by sending on an ode, of which the first and last verses were:—

'Twas five years ago, so the calendars tell us,
That out of the portals of Rogers there poured,
Each with a degree, if good fortune befell us,
A light-hearted, jovial, excellent horde.
Five years before that in the Preps we were plugging,
And looking on Tech as a valley of tears.
And now, five years later, our memories hugging,
We hail the old 'Stute with tumultuous cheers.

And one thing I CAN do, and do with a relish,—
Sing praises of TECH, howe'er rusty my pen.
Its graces have need of no poet to embellish,
No poet could do justice to Institute men.
So, fellows, here's hail and a thousand good greetings;
Here's fortune to all, without waiting or check;
And, lastly, here's hope for full fifty more meetings
At our grand, independent, unparalleled TECH!

—Letters from Past President Lawrence, ex-Secretary Higgins, and others were read, stories were passed around the table and we left for the Pops. There we found our place amid the good time, and got as hoarse as the rest. The Stein Song at the close brought Brush to his feet, and that eloquent tenor voice surging above the great chorus brought back a reminiscence of the young brave of "The Medicine Man," now a street railway magnate.—Replies received located W. I. Bickford (VI.) at Pittsburg, secretary of the Iron City Engineering Company.—Higgins in St. Louis, a prosperous member of the firm E. H. Abadie & Co.—Our first president Reuben B. Clark (XIII.), is building yachts at Riverton, N.J.—F. W. Coburn, E. B. Cook, and M. W. Hogle are in the steel works, the first two as superintendents, the last as engineer.—George A. Hall is undergoing a metamorphosis into a minister, and is at Yale.—Salvador Madero heads a rubber plantation and factory in Mexico.—Friend Vermylye was married about a year ago, and is settled in Brookline, Mass.—Harry E. Dart was married to Miss Maude Smith Ruland on August 29 last.—F. W. Puckey and H. T. Blanchard are studying in Paris.—Robert White, Jr., E. L. Chapman, and the secretary have been abroad this summer.—The engagement was recently announced of Charles K. Flint to Miss Elizabeth De Nike, of New York.

STATISTICS OF THE CLASS OF 1901

(*June*, 1906)

The following data are prepared from information received from 106 men. Six members of class are studying abroad. Sixteen men are teaching at various colleges and schools. Of the 106 men, 53 are married, 7 more are engaged. Of the 53 married, 24 have children to the aggregate number of 34, 19 boys, 15 girls. Marriages have taken place as follows: in 1901, 5; '02, 6; '03, 12; '04, 15; '05, 10; '06, 3.—Seventy-five men replied with regard to their income from professional work. While some of these men may have been somewhat optimistic, the secretary knows that other men with

fancy salaries failed to respond, so that the average is not greatly exaggerated. The fact that the Western States show a low average is doubtless due to the small number of returns from that part of the country. One man reports an income of $100,000, if the secretary read the figures aright, but it seemed best to exclude it in making up the average. The next largest income was $6,000, the smallest $1,000, and the average $1,800.

AVERAGE INCOME

By Courses

Mining Engineering	$2,625	
Naval Architecture	2,200	
Chemistry and Chemical Engineering	2,180 or	1,800*
Civil and Sanitary Engineering	1,910 or	1,720*
Electrical Engineering	1,700 or	1,600*
Mechanical Engineering	1,630 or	1,490*
Architecture	1,620 or	1,400*
Biology and General Studies	1,370	

By Geographical Location

New England States	$1,510 or	1,450*
Middle Atlantic States	1,980 or	1,790*
Central and Southern States	2,370 or	2,000*
Western States	1,600	
Average for 75 men	1,850	
Average for 73 men	1,750	

1902.

F. H. HUNTER, *Sec.*, 36 East 28th Street, New York, N.Y.

The following addresses have come in since our last report: Reynolds, 53 Hereford Street, Boston.—E. E. Nelson, Fort Worth, Tex., with Northern Texas Traction Company.—Randall is at 360 Commerce Street, Dallas, Tex.—Starr, 83 Wheeler Avenue, Edgewood,

*Excluding one abnormally high.

Providence, R.I.—H. W. Stebbins, since the earthquake, is relocated at 523 Monadnock Building, San Francisco. He is with the Atlantic, Gulf & Pacific Company.—A. T. Nelson is with the United States Geological Survey at Williston, N.D.—Archie Gardner is at Babylon, L.I.—R. E. Kimball is at 716 Broad Street, Sewickley, Pa. His permanent address is care Riter-Conley Manufacturing Company, 55 Water Street, Pittsburg, Pa.—W. C. Taylor is now in the office of the chief engineer, Erie Railroad, 11 Broadway, New York.—Hudson has removed to 311 Essex Street, Salem, Mass.—Fitch is at 240 Jefferson Street, Dayton, Ohio.—Seabury is located at West Shokan, N.Y.—Strand is with the National Fireproofing Company in Boston.—L. B. Haworth is with the New England Telephone and Telegraph Company, Boston.—Manley is in the Adirondacks, shaking off tuberculosis.—Pearson is studying for orders in the Episcopal Church. He is at the General Theological Seminary, New York.—C. A. Sawyer married Miss Clara Lucille Zeiss, of Waban, Mass., on September 15, while on the 5th, Towne was married to Miss Lois Lillian Twitchell, of Milan, N.H.—Your secretary has removed to New York at the above address. He is with the Underwriters' Engineering and Construction Company at 1170 Broadway.—The class of 1902 is much in evidence at the Technology Club of New York. Read, who is assistant editor of the American Telephone Journal at 116 Nassau Street, is Chairman of the House Committee. Annett, who is with the Gunn Richards Company, 43 Exchange Place, is the Treasurer. Rayne Adams, with Howard Greenley, 12 West 40th Street, and Place, who is mechanical engineer with Reed & Stem, 314 Madison Avenue, the architects for the new Grand Central Station, are frequent visitors at the club-house. The engagement of Professor William Henry Whitcomb, of Oxford, Ohio, to Miss Emma Florence Hubbard, of Newton, was announced the last of September.—On September 28 Herbert E. Raymond was married to Miss Ruth Isabelle McNaughton, of Watertown, Mass.

1903.

W. H. ADAMS, *Sec.*, Polytechnic Institute, Brooklyn, N.Y.

William Winslow Burnham died in Wilmington, N.C., August 11, at the age of thirty years, eleven months, and eighteen days.

1904.

CURRIER LANG, *Sec.*, Michigan Central Depot, Detroit, Mich.

The summer has brought very little news of '04 men to the secretary. The following items are all there is to offer.—A. W. Bee has left the Pennsylvania Lines west of Pittsburg, and gone to the Ferro-concrete Company of Cincinnati.—W. H. Eager is now with the Whitman & Barnes Manufacturing Company of 120th Street, Chicago.—W. E. Hadley has lately moved from the galvanizing department of the National Tube Works into the blast furnace department.—W. U. C. Baton is located with the Washington Filtration Plant as first assistant chemist. The chief chemist and superintendent is S. S. Longley (I.), who was '04 for some time.—On Monday evening, September 10, Arthur Ditson Smith, of Bayonne, N.J., was married to Miss Haidee Margaret Tozier at St. John's Episcopal Church, East Boston.

1905.

ROBERT H. W. LORD, *Sec.*, 248 Tremont Street, Newton, Mass.

On account of the difficulty of getting together fellows of '05 who represent fairly the wishes of the class as a whole, the secretaries have to decide upon the general policy of the class either themselves or else with the advice of the men in the immediate vicinity of Boston. But now a question has come up which, we think, should be decided by the general consensus of opinion of those fellows at a distance as well as those around Boston. Following is a letter from Buell, the gist of which is the same as several

other letters which have been received, namely: Are we to have a triennial?

In your letter you mention a big reunion to take place in 1909. In regard to this. Before our class left Boston, it was proposed at some class dinner that we inaugurate the custom of Triennial Reunions, which would bring the first one in 1908. Other '05 men have spoken of this question, and I would consider it a favor if you would let me know the present plans in that line. I venture to suggest that those in charge of the arrangements for that occasion see if special round-trip rates of one fare plus one-third or one-fifth cannot be obtained, as I have understood that Harvard graduates have the advantage of such rates at their Commencements.

If there were to be no "General Reunion" in 1909, there is no question but that we should have a triennial. But there is to be a General Reunion in 1909, and the problem narrows down to would or perhaps could the whole crowd come back two consecutive years? We want a large representation in 1909, and, if some of the men come back in 1908 and could not come in 1909, would this not detract from the attainment of the object which the older alumni have striven for in the General Reunion? And, again, if some come in 1908, some in 1909, we would not all be together either time, and we would miss a good many old friends. Besides this two reasons have been suggested for not having the two reunions: first, the expense to fellows far off; and, second, inability to secure time off just when you want it on two consecutive years. If we have the one reunion in 1909, we could easily come a few days earlier and camp out together or some such stunt. Every one write in, and let us know his ideas.—In June a letter was received, consisting of one sheet of paper, with the simple phrase on it, "Rah for Tommy!" and enclosed was this newspaper clipping:—

On Wednesday of last week at Berlin, N.H., there was celebrated the marriage of Miss Miriam Lane, daughter of L. B. Lane, cashier of the Berlin Savings Bank, to Thomas W. Estabrook, who is at present in the International Paper Company's mill at Berlin, learning the business in all its details. Mr. and Mrs. Estabrook are to make their home at Berlin, N.H., for the present.

—Bush had a letter from Gage, saying:—

I am a draughtsman on the canal, and like it very much. J. H. Flynn, Jr., is head draughtsman. F. A. Browne and R. J. Lyons of 1906 are also here.

—Charles B. Mayer writes:—

You might be interested to know that I am, and have been, with the Trussed Concrete Steel Company since the early part of March. Up to that time I was with the American Bridge Company, and had excellent experience in steel detailing. Now I'm studying reinforced concrete with a vengeance. I saw Bushnell at the New York Technology Club on the 26th of July. See Ros Davis occasionally, as he lives in Brooklyn, and, of course, many of the '05 architects. They all seem to be getting on famously.

—Bill Keen writes that it is well worth the price to get an occasional bit of news from the 'Stute, even if it is a class assessment, also that J. L. Merrill (V.) was married June 30.—A. H. Smith was married on June 21 to Miss Helen L. Brewster, of Malden.—Ned Jewett was married on September 25 to Miss Elsie Leavitt, of Roxbury, and H. W. Kenway on October 10 to Miss Elsie V. Tinker, of Newton.—In some way the stencils for E. M. Lines got mixed up, and he was receiving the class mail of one of our fair co-eds. We were about to report his engagement in the REVIEW when a letter from him informed us of the mistake.—James P. Barnes writes as follows:—

. . . About time you heard from me? Well, don't know but it is at that. I've done a good bit of moving around since I left Tech, and, as I'm getting heavier, it uses up my vitality to move much. Maybe that will account. Last summer I was with the U. V. M. V. Ry. Co. in Utica, and on September 15 I went to Pass & Seymour in Solvay, a suburb of Syracuse. On June 15, '06, I came back to Utica with the Oneida Railway Company, which is doing the work on the West Shore Electrification from Utica to Syracuse. While I was in Solvay, I found time to get married. That was on June 3, 1906, and the lady in question was Miss Merriam Ernhout, of Syracuse. I saw Fred Bennett a little while ago. He's looking disgust-

ingly healthy for a man on Barge Canal work. He's the only man I've seen from '05 for a long time, but I bumped into Freddie Simonds, '04, one day. He is bridge inspector on the Mohawk Division, New York Central & Hudson River Railroad. That is about all I know, except that I wish you'd get my address for the TECHNOLOGY REVIEW changed to care of Oneida Railway Company, Utica, N.Y., as I haven't a copy here and don't know whom else to write about it. Yours in the old spirit.

—We were glad to hear that Flynn had not absorbed any harmful bacteria at Colon. He writes:—

I am spending a few weeks' leave of absence from Isthmus of Panama in dear old Boston, and find those weeks are moving away almighty quick. You know I have been working for the Isthmian Canal Commission for the last year or more in the Mechanical Division. I have recently been appointed chief draughtsman of this division, and have also changed my address from Ancon to Culebra, Canal Zone. Gage, '05, is working as draughtsman in same division, and I expect that four or five more '05 men will accept appointments this summer. The people of the United States can then rest assured that the canal will be quite properly constructed.

From Walker we have:—

My last letter must have reached Wentworth too late for the July issue, so I must start some little time back. Killion went to Washington the last of May to assist in superintending the execution of a large 800-ton power plant. We have heard nothing from him since, so presume he is still there. Would like to have him send in his address, so we can keep tabs on his whereabouts. Keen went to his home in Malden on a vacation several weeks ago. The novelty was too much for him, and he was taken ill with typhoid fever within a few days after his arrival. We are glad to state that he recovered after a short illness. However, the doctor forbade his returning to this city until October. . . . By the way, what do you think of a '05 man that would leave Boston the 5th of last June? I have been thinking that same thing of him (his name is Walker) ever since, but circumstances alter cases, and this was a circumstance. Sid Cole, formerly with the Ontario Power Company, Ontario, Can., accepted a position last month with the Lanston Monotype Company of this city. That makes five '05 men employed by this company at present. You undoubtedly know about Jack Flynn's visit to Boston,

and how he took back with him to Panama his own sister to keep house for him: leastwise, that is the way the report runs. Jack has the true Tech spirit, and was offering mighty good inducements to several '05 men to return to the Isthmus with him. I hear that Bixby accepted, and is undoubtedly in the Canal Zone by this time. Cole gives me the following information. Arthur Freeman has left the Sullivan Machine Company, and accepted a position in Washington, D.C.,—something to do with heating and ventilation on a government building. Joe Brown is at present at the New York office of the Sullivan Machine Company. Eichler took a flying business trip to Bellows Falls, Vt., a short time ago. He passed through Boston on his way, and that made him so homesick he is now looking for a vacation. I will give you the following changes in residence addresses: Sidney L. Cole, Walter G. Eichler, and H. LeR. Walker, 1730 Tioga Street, Philadelphia, Pa. Lander's address should be 3121 Columbia Avenue, not Columbus, as given in the July REVIEW. The business address of all four is 1231 Callowhill Street, Philadelphia. The '05 Quaker Society has been rather quiet this hot weather, but there will be something doing as soon as it comes cooler. Are there any new '05 men in the city? If so, please speak up. Will all '06 men in this city kindly drop me a postal or letter, and tell me their whereabouts? We '05 men wish to welcome them to the city. Yours for the '05 Quakers.

—Ned Jewett writes that he met Ashley in Louisville. Ashley is with the Abadie Construction Company of St. Louis, and doing some conduit work for the Louisville Street Railway Company.—J. A. Pitts, of Johannesburg, South Africa, writes that he will probably not attend the class dinner.—The firm of Stetson & Jorgensen, electrical engineers, has been formed, with offices in Boston. Stetson has been with the New England Telephone Company since graduation, and we wish him every success starting out for himself.—Gib Tower is with the Associated Factory Mutual Fire Insurance Company of Boston.—Charley Boggs is chemist for the Simplex Electrical Company of Cambridgeport.—It has been suggested that we form a Boston Club of 1905, whose sole official duty should be to meet on a certain day of each month, and dine together at the club. This idea has met with favor with every one with whom we have talked, and plans for the execution

will be started immediately. It is understood that any member of the class happening to be in Boston will be expected to present himself.—Hallet R. Robbins, whose address is care Collbrau & Bostwick, Seoul, Korea, writes under date of June 20, 1906, from Songchin, Korea, as follows:—

The April edition of the REVIEW has just come to hand, and it occurs to me that possibly some '05 men would be interested to hear from that classmate of theirs who perhaps is farthest away from his Alma Mater at the present time.

I came to Korea last summer to take the position of assistant superintendent of the Cyanide Department of the Oriental Consolidated Mining Company at Taracol, Ping Yang province. I found everything just about the opposite of what I was told in New York when I signed my contract with them. So I left about the middle of March, after a slight disagreement with the superintendent, resulting in the demolition of his front door by the toe of my boot and various other exciting and interesting events. I came down to Seoul from Anju over the newly opened Jap railroad to Wiju, jammed into a box-car packed full of Japs and Koreans.

In Seoul I accepted a position as prospector and consulting engineer with the Manchu Syndicate, Limited, of London, and since the first of April I have been travelling through the northern provinces, examining native mines and prospects in company with an engineer from Australia. I have been in many places never before visited by white men, and have been a source of great curiosity and amusement to the natives. I expect to get back to Seoul in a month, and hope to go to Manchuria then, though, if the Chinese government persists in refusing us passports, I may find myself out of a job. The Syndicate is a first-class outfit to work for, and their treatment of me has been generous in the extreme.

In common with all other white men in the Orient (except newspaper correspondents who know on which side their bread is buttered) I have learned to hate the Japanese most cordially. The Japanese soldier is far inferior to the American negro soldier in every way. I would back one negro against a dozen of "our little brown heroes." Some day the American and English people will wake up to the fact that they have been making silly fools of themselves over the Japanese. I only hope the awakening will come before it is too late. Let me say right now the yellow peril is no idle dream. The sooner some white nation administers to Japan her needed trouncing, the better it will be for the white race.

Many Koreans up this way speak Russian, and give very good reports of the Russians. They tell of kind, fair, and generous treatment by them in every instance. I have never heard from a Korean a single word against the Russians. Koreans are reported to be leaving this port of Songchin for Vladivostok at the rate of 10,000 per month to escape the persecutions of the Japs and find peace and prosperity under the St. Andrew's cross of the "Colossus of the North."

Following are the changes of addresses since the last REVIEW: J. P. Barnes, care Oneida Railway Company, Utica, N.Y.—H. A. Buff, 23 Cheshire Street, Jamaica Plain, Mass.—Sidney L. Cole, 1730 Tioga Street, Philadelphia, Pa.—A. M. Dean, Maryland Avenue, Hagerstown, Md.—L. J. Killion, 2251 1st Street, N.W., Washington, D.C.—Miss Kujo Makino, 3 Takejimacho, Koishikawa, Tokyo, Japan.—E. F. Moody, Vera Chemical Company, Stoneham, Mass.—I. A. Murr, 467 Broadway, Albany, N.Y.—P. M. Paine, care Sullivan Machinery Company, Salt Lake City, Utah. ("A bad place for Peacham.")—J. H. Tebbets, 123 Pembroke Street, Boston, Mass.—H. C. Stetson, 6 Beacon Street, Boston, Mass.

1906.

T. L. HINCKLEY, *Sec.*, 745 Osceola Avenue, St. Paul, Minn.
A. T. HEYWOOD, *Res. Sec.*, Mass. Inst. of Technology, Boston.

The men of 1906 have now had four months in which to make the acquaintance of that complex and curious thing which is called "the world." To some of us who have already been initiated the return among the activities of our great country—no matter in how humble a capacity—is full of inspiration and possibility. To those who rub elbows with the "man on the street" for the first time there are doubtless many facts and institutions which appear unreasonable and strange. It is to be hoped, however, that we all, whether experienced in the way of the world or not, have met whatever has fallen to us to do with willingness and determination. Success to all of us!

It is not generally known that the class had $450 left over at the close of the Senior Week events, in addition to the sum voted for alumni expenses. Pending the vote of the class, the treasurer, Mr. H. C. Henrici, provisionally gave this sum to a scholarship fund suggested by Bursar Rand. It will be available to men not reached by the ordinary scholarships. Part or all of this sum is still applicable to 1906 uses, if at any time there is urgent need of such money by the class. In our opinion the class owes a large debt of thanks to Mr. Henrici for such a successful completion of our financial career at the Institute, and also for his good judgment in disposing of the surplus as he did.

There are one or two things which the secretaries would like to say to 1906 men. One is that this REVIEW, the staff of which renders its services entirely gratuitously, is quite likely to be delayed in publication, but that the specified number of issues will always be forthcoming. Postals requesting address and information concerning occupation have been sent to every member for whom an address could be found. It is certain that some members have not been reached. We would like to get into communication with such men as soon as possible, and will appreciate any aid to this end.

Ours is a big class, and, judging from the replies already received, it is making some headway toward doing its share of work in the world. The following notes include replies to date:—

Daniel Adams (II.), 55 Jackson Street, Lawrence, Mass., draughtsman, Pacific Mills.—Howard P. Adams (II.), 202 West 44th Street, New York, N.Y., with Western Electric Company.—Ogden Ross Adams (Sp.), Seattle, Wash., assistant master mechanic, Seattle Electric Company.—Simon Carlyle Allen (V.), Genesee Fruit Company, Rochester, N.Y., chemist, American Fruit Product Company. —Fritz Albert Armstrong (I.), 220 West River Street, Hyde Park, Mass., student at Harvard University.—Allen Ashley (VI.), St. Louis, Mo., with the E. H. Abadie Company, engineers and contractors.—Herbert J. Ball (II.), 315 Pawtucket Street, Lowell, Mass., instructor in mechanical engineering at Lowell Textile School.—Edgar C. Ballou (II., IV.), 15 Laura Street, Providence, R.I., secretary, F. E. Ballou Company.—James Ira Banash (VIII.),

5 Fayston Street, Roxbury, Mass., Assistant in Physics, M. I. T.—Raymond James Barber (III.), Bingham Cañon, Utah, assistant engineer, Boston Consolidated Mining Company. Married June 20, 1906, to Miss Mabel Leonard.—Earl S. Bardwell (III.), private assistant to Professor R. H. Richards, M. I. T.—H. P. Barnes (I.), White Plains, N.Y., rodman with Board of Water Supply. Barnes, better known by the pseudonym "Pete," tried to live in New York City for a month, and then retired, disappointed, to White Plains, where his shattered nerves are gradually mending. "Pete's" address is still "Plymouth, Mass.," however.—Charles T. Bartlett (I.), Box 392, Crafton, Pa., assistant on engineering corps, Pennsylvania Lines P., C., C. & St. L. Ry., Pittsburg Division. Bartlett has been running courses all summer for the Pennsy. It is certainly too bad for such a straight man as Bartlett to have to follow such crooked paths.—Fred R. Batchelder (VI.), Hampton, N.H., about to enter the apprenticeship course of the Westinghouse Electric and Manufacturing Company.—William P. Bearce (I.), Foxboro, Mass., first assistant draughtsman, Boston & Providence Electric Railroad.—Harold W. Beers (I.), 32 Cedar Street, Taunton, Mass., Assistant in Civil Engineering Department, M. I. T.—Frank A. Benham (I.), 48 St. Stephens Street, Boston, Mass., American Telephone and Telegraph Company, 125 Milk Street, Boston, Mass.—Leavitt N. Bent (X.), Framingham, Mass., Research Assistant in Technical Chemistry, M. I. T.—E. M. Berliner (II.), 1458 Columbia Road, Washington, D.C., assistant engineer, temporarily, under Dominion Engineering and Construction Company, Montreal, Canada; student at M. I. T.—Rutherford Bingham (VI.), Technology Chambers, Boston, has been travelling in Europe during the summer, student at M. I. T.—Otto B. Blackwell (VI.), 16 Rutland Square, Boston, Mass., with the American Telegraph and Telephone Company.—Albert A. Blodgett (IV.), 28 Greenville Street, Roxbury, Mass., graduate student in architecture, M. I. T.—Laurence G. Blodgett (I.), Munroe, La., assistant engineer with A. M. Blodgett, contracting engineer of Kansas City. At work rebuilding U. S. & R. R.R. bridge across the Ouachita River at Munroe. Blodgett has been hard at work constructing bridges, etc., in Louisiana. He reports

that Shapleigh, formerly '06, was inspector for the railroad on one job that he was engaged on. "Shap" made Blodgett drive piles down about as far as they could be driven by human agency, until, says the latter, "they couldn't go a — inch farther!"—David Bloom (V.), 377 Broadway, South Boston, Mass.—Louis L. Booth (II.), Poughkeepsie, N.Y., architectural draughtsman. Booth is in no hurry to get married.—A. L. Boynton (II.), 88 Chatham Street, Worcester, Mass.—Charles F. Breitzke (I.), 78 Fisher Avenue, White Plains, N.Y., assistant engineer, New York Board of Water Supply, office 4 Grand Street, White Plains, N.Y.—H. H. Brown (XIII.) is reported by Barnes (I.) to be editing a paper somewhere (address not given). Perhaps it's just as well.—Harry W. Brown (II.), 118 Brighton Corner, Allston, Mass., draughtsman with Stone & Webster, 84 State Street, Boston, Mass.—Frank Atwood Browne (XIII.), Culebra, Canal Zone, Panama, mechanical draughtsman in the government employ.—Harry W. Buker (III.) is reported with the Boston & Montana Company, Great Falls, Mont.—Charles Randall Burleigh (II.), 741 Broadway, Albany, N.Y., with Consolidated Car Heating Company.—George E. Burnap (IV.) is at present working in the landscape department of Isaac Hicks & Son, nurserymen, Westbury Station, L.I., N.Y.—C. W. Burpee (I.) is stationed at Louisville, Ky., and is on the engineering corps of the Louisville & Nashville Railway.—Shields Burr (I.), Woonsocket, R.I., assistant superintendent, Glenask Knitting Company.—Edmund S. Campbell (IV.), 48 St. Stephens Street, Boston, graduate student, M. I. T.—Sidney T. Carr (VI.), 18 Thayer Street, Quincy, Mass., apprenticeship, engineering course, Westinghouse Electric and Manufacturing Company.—Henry P. Carruth (V.), American Writing Paper Company, Holyoke, Mass., chemist, representing Mr. A. D. Little, of Boston, with above company.—C. E. Carter (I.), care of William Ashton, chief engineer, Salt Lake City, Utah.—From the Reading (Mass.) *Chronicle* of July 21, 1906: "Clarence E. Carter, S.B., who graduated from the Massachusetts Institute of Technology,' 06 class, in June last, has accepted a position with the Oregon Short Line, and started for Salt Lake City, Utah, the headquarters of the company, last Thursday, from Mt. Vernon, N.Y., where he had been tem-

porarily employed." He has been at work as assistant engineer on resurvey of Nevada & California Railroad.—Anna M. Cederholm (V.), 65 Marlboro Street, Belmont, Mass., Research Assistant in Technical Chemistry, under supervision of Dr. Walker, at M. I. T. Subject, Corrosion of Metals.—Willis S. Caypless (III.), 1035 Logan Avenue, Denver, Col., chemist, American Smelting and Refining Company.—W. E. Chadbourne (XIII.), 41 Newport Street, Dorchester, Mass., assistant in Standardizing Laboratory of Edison Electric Illuminating Company, Boston, Mass.—John Patten Chadwick (III.), 138 Main Street, Saco, Me., student at M. I. T.—Charles H. Chase (II.), 15 Westfield Street, Dedham, Mass., draughtsman with Lombard Governor Company.—Eugene P. Chase (VI.), 817 Walnut Street, Wilkinsburg, Pa., apprentice, Westinghouse Electric and Manufacturing Company.—Arthur M. Chidester (I.), Technology Chambers, Boston, Assistant at Technology, Civil Engineering Department.—Earl G. Christy (XIII.), 2924 Collingwood Avenue, Toledo, O., draughtsman, architectural and naval.—Prescott J. Clapp (II.), 169 Boston Street, Upham's Corner, Mass., student at M. I. T.—J. Redman Clark (II.), 5330 Bartmer Avenue, St. Louis, Mo., salesman with the Forbes Lithograph Manufacturing Company of Boston, Mass., located in St. Louis.—Robert Sidney Clark (XIII.), 9 Green Street, Claremont, N.H., clerk in office of Sullivan Machinery Company.—Ralph S. Clarke (VI.), 35 Rockwell Street, Dorchester, Mass., with the engineering department of American Telephone and Telegraph Company.—Lewis Cutler Clarke, Jr. (graduate IV., '04), 264 Green Street, Cambridge, Mass., architectural draughtsman with Parker & Thomas, 20 Beacon Street, Boston.—Clarence M. Cockrell (VI.), Denton, Tex., teaching.—Maxwell A. Coe (II.), 43 Ashland Street, Medford, Mass., back at 'Stute to get his degree.—Harold V. O. Coes (II.), 345 West 70th Street, New York, N.Y., special apprentice with Western Electric Company for one year, after which he expects to go into the engineering department—Stewart C. Coey (VI.), 156 Broad Street, Newark, N.J., assistant in electrical engineering department of J. C. White & Co., 43 Exchange Place, New York, N.Y. "Stewy" expects to follow "Wet's" example in 1908.—Harry Hall Cook (II.), 27 Lamartine Street,

Jamaica Plain, Mass., head draughtsman with Coffin Valve Company.—Raymond E. Cranston (II.), 425 Quincy Street, Dorchester, Mass., with the Associated Factory Mutual Fire Insurance Company.—Robert Ellis Cushman (II.), 741 Broadway, Albany, N.Y., inspector of McElroy Car Lighting System, employed by Consolidated Car Heating Company of Albany, N.Y.—Edward P. Cutler (Sp.), Ensley, Ala., chief electrician for Barrett Manufacturing Company, manufacturer of roofing and paving materials.—William Couper (I.) is reported in New York, N.Y.—E. H. Daniels (Sp.), Natick, Mass., bank clerk.—Henry E. Darling (III.), 125 Milk Street, Boston, Mass., traffic engineer, American Telephone and Telegraph Company, since February, 1906.—George L. Davenport, Jr. (I.), 1113 Union Station, Pittsburg, Pa., assistant with chief engineer's corps, Pennsylvania Lines, west of Pittsburg.—D. C. Davis (VI.), 6700 North 8th Street, Oak Lane, Philadelphia, Pa., engineering department of Bell Telephone Company of Philadelphia.—Leon H. Davis (I.), 25 Union Park, Boston, Mass., working in broker's office.—Roland P. Davis (I.), 42 Broadway, New York, N.Y., with American Bridge Company.—Sidney L. Davis (XI.), Cristobal, Canal Zone, Panama, United States government clerk.—Walter D. Davol (VI.), 19 Bartlett Street, Charlestown, Mass., student course, New England Telephone and Telegraph Company.—Edward H. Dean (Sp.), 38 General Cobb Street, Taunton, Mass., draughtsman with Weir Stone Company, 60–62 Union Street, Boston.—Herbert W. Dean (VI.), 6700 North 8th Street, Oak Lane, Philadelphia, Pa., with engineering department, Bell Telephone Company of Philadelphia.—W. J. Deavitt (III.) is reported in Aguascalientes, Mexico.—W. G. de Steiguer (III.), 12 Newbury Street, Boston, Mass., Assistant in Geology, M. I. T. This summer de Steiguer went on a fishing trip on White River, in the wilds of the Ozark Mountains of Southern Missouri.—F. Eugene Dixon (V.), 25 Hulbert Street, Roxbury, Mass., superintendent, Ellis-Chalmers Company, manufacturing chemists, Dedham, Mass.—R. H. Doepke (II.), 3595 Washington Avenue, Cincinnati, Ohio, connected with Alms & Doepke Company and other interests.—Alice Brooks Douglas, La Fayette Avenue, Hingham, Mass.—John J. Donovan

(IV.) is located in New York City, address not yet received.—Ralph L. Dyer (XIII.), 11 Grove Street, Winchester, Mass., studying at Tech.—Sylvester B. Eagan (III.), 993 Delaware Avenue, Buffalo, N.Y., automobile manufacturing and selling.—David D. Eames (II.), 15½ Orchard Street, Auburn, N.Y., draughtsman with McIntosh, Seymour & Co.—Frederic E. Earle (II.), 10 Downer Street, Dorchester, Mass., steam-fitter for Lumsden & Van Stone Company, Boston.—William Firth Eastwood (II.), 155 Ruggles Street, Boston, Mass., manual training teacher, Neighborhood House, 155 Ruggles Street, Boston. Married June 17, 1903, to Miss Catherina E. Soper.—Edward M. Eliot (VI.), Post Falls, Ida.—H. C. Elliott (I.), 11 Ruskin Street, West Roxbury, Mass., with Eldredge, Lewis & Co., 70 Franklin Street, dry-goods commission merchants and selling agents for cotton mills.—Carleton M. Emerson (II.), 72 Mt. Vernon Avenue, Braintree, Mass., solicitor and inspector for Electrical Auditing Company, consulting engineers, Boston, Mass.—Quincy P. Emery (XIII.), 221 Colman Block, Seattle, Wash., civil engineer with Seattle Engineering Company.—William Franklin Englis (XIII.) is reported in New York. No address received as yet.—E. B. Evans (IV.), 116 Cedar Street, Malden, Mass., designing engineer with Purdy & Henderson, civil engineers, Paddock Building, Boston, Mass.—Nugent Fallon (I.), 489 Walnut Avenue, Jamaica Plain, Mass., is with Boston Elevated Railway to spend three months in every department.—Carroll A. Farwell (I.), Office engineer M. of W., Pittsburg Division, 1013 Penn Avenue, Pittsburg, Pa., assistant on engineering corps, Pennsylvania Lines, S.W.—J. H. Feemster, Jr. (VI.), Glendale, Ohio, with Laidlaw-Dunn-Gordon Company, manufacturers steam pumping machinery and air and gas compressors.—Harry Varnum Fletcher (II.), 383 Spring Street, Portland, Me., member of the Engineering Department, Maine Central Railroad.—Charles Eugene Fogg (I.), 1122 Union Trust Building, Cincinnati, Ohio, chief engineer, Western States, for G. M. Gest, subway contractors, New York City, N.Y.—Edwin D. A. Frank (II.), 2300 Grand Avenue, Milwaukee, Wis., graduate apprentice with Allis-Chalmers Company at Milwaukee, Wis.—Floid M. Fuller (II.), (temporarily)

92 Electric Street, Scranton, Pa., draughting and testing locomotives for D., L. & W. R.R. Assistant at Tech, 1906–07.—William C. Furer (IV.), 573 Second Street, Brooklyn, N.Y., draughtsman with American Bridge Company of New York.—G. C. Furness (VIII.), 523 River Street, Hoboken, N.J., instructor in physics at Stevens Institute of Technology.—William W. Gaylord (II.), Torringford, Conn., draughtsman, New Works Department of American Brass Company, Waterbury, Conn.—Gerhard, McManus, Sherman, Lynde, and Breitzke, all '06, succeeded in passing the examination for the position of assistant engineer on the New York Board of Water Supply.—Barnes, also '06, passed the examination for rodman.—Michael J. Gibbons, Jr. (VI.), 239 North Main Street, Dayton, Ohio, steam and hot water heating and electrical construction, with M. J. Gibbons, 20 and 22 West Third Street, Dayton.—Nathan Jackson Gibbs (I.), 25 Slater Avenue, Norwich, Conn., civil engineer on United States Engineer Corps for Panama Canal, September, 1906. Previously on engineer corps, New York, Auburn & Lansing Railroad, located at Auburn, N.Y.—Henry A. Ginsberg (VI.), 19 Clinton Street, Cambridge, Mass., engineering department of New England Telephone and Telegraph Company.—Milford D. Gray (I.), 21 Chestnut Street, Woburn, Mass., student in Boston University Law School; Clerk of Committees in the Woburn city government.—James Edwin Griffin (I.), 130 Temple Street, West Newton, Mass., with E. W. Bowditch, civil engineers and landscape gardeners, 60 Devonshire Street, Boston, Mass.—Perley K. Griffin (I.), 86 Walnut Street, Neponset, Mass., employed in the machinery draughting-room of the Fore River Ship Building Company, Quincy, Mass.—Ransom C. Grosvenor (Sp.), 371 Columbus Avenue, Boston, Mass., tool-maker, with Napier Motor Car Company of America, Jamaica Plain, Mass.—George R. Guernsey (I.), 27 Eaton Street, Winchester, Mass., Assistant in Civil Engineering, M. I. T.—F. Bertine Guest (XIII.), 375 Maple Street, Bridgeport, Conn., lumber business.—Frank Haley (I.), 9 Adams Court, Lynn, Mass., civil engineer, Boston & Maine Railroad.—Wallace Ralph Hall (I.), Hunts Point Road, Bronx, New York City, inspector and assistant engineer, New York Contracting Company, New

Haven Improvements. Six tracking N. Y., N. H. & H. R.R., between New Rochelle and the Harlem River, distance of twelve and one-half miles.—Henry B. Hallowell (III.), 112 School Street, Belmont, Mass., private assistant to Professor R. H. Richards, M. I. T.—Charles E. Hamilton (VI.), 276 Endicott Avenue, Beachmont, Mass., engineering department, American Telephone and Telegraph Company.—C. E. Hanson (II.) is reported as toolmaker with Walworth Construction Company, South Boston, Mass. —Elmer Ellsworth Harrington (III.), Great Falls, Mont., assistant chemist with B. & M. Company.—M. W. Hayward (III.) is back at Tech, taking post-graduate work in geology.—Alfred R. Heckman (V.), Lake City, Col., assayer.—Albert W. Hemphill (II.), 506 Moore Street, Bristol, Va.-Tenn., with general department of the South & Western Railroad, in the office. Will be on field work after January 1.—George M. Henderson (III.), care Oliver Iron Mining Company, Hibbing, Minn., engineer, Morris Mine. The M. I. T. Summer School of Mining and Metallurgy just missed meeting Henderson when they visited the mines at Hibbing in June.—Alfred W. Hertz (IV.), 2121 Benton Boulevard, Kansas City, Mo. Was working in Boston this summer. Is now architectural draughtsman in office of Charles A. Smith, Kansas City, Mo.—Angelo Tilton Heywood (III.), M. I. T., Boston, Mass., Assistant to the Registrar.—Alexander Hicks (II.), 45 Prospect Street, Claremont, N.H., in premium department, Sullivan Machine Company.—Thomas Lesley Hinckley (XI.), care Ohio State Board of Health, Columbus, Ohio, engineering assistant to the Ohio State Board of Health.—Fred W. Hinds (Sp.), 61 Kirkstall Road, Newtonville, Mass., representing Worcester & Providence Street Railway Company in settling land damages.—L. E. Hirt (III.), 25 Broad Street, New York City, erecting.—Chester A. Hoefer (Grad. VI.), 9 Lincoln Avenue, Freeport, Ill., secretary, Hoefer Manufacturing Company. In charge of stock and cost-keeping systems, also overseeing drawing-room work.—Thomas B. Holmes ($III._8$), Autlan, Jalisco, Mex., care Carrizo Copper Company. Particulars not yet received.—Bruce R. Honeyman (IV.), Christ's Hospital, Cincinnati, Ohio. Recuperating from typhoid fever. We are mighty

sorry to hear this, but "Scotch" isn't the kind of a fellow to give in, and we know he will soon be on his feet again. He had started out on concrete work.—W. W. Hosmer, Jr. (Sp.), 63 Rindge Avenue, Athol, Mass., representative of International Correspondence Schools of Scranton, Pa., headquarters, Hartford, Conn. Married Feb. 18, 1905, to Miss Grace Spencer Trask.—Walter A. Hotchkiss (VI.), 698 Kossuth Street, Bridgeport, Conn., draughtsman on plant registry and appraisal with the Union Metallic Cartridge Company, Bridgeport, Conn.—Charles Alton Howard (II.), 55 Duane Street, New York City, assistant to mechanical engineer, with New York Edison Company.—Robert N. Hoyt (Grad. VI.), 40 Oak Street, Hyde Park, Mass., special student at M. I. T.—H. S. Hubbell (III.), 83–85 Washington Street, Brooklyn, N.Y., vice-president, Sawyer Tool Manufacturing Company, Fitchburg, Mass.; acting treasurer, T. R. Almond Manufacturing Company, Brooklyn, N.Y.—George F. Hunt (IV.), Ann Arbor, Mich., instructor in drawing, department of engineering, University of Michigan.—Robert Hursh (III.) is with the American Smelting and Refining Company, in Monterey, N.L., Mex.—H. O. C. Isenberg (II.) is reported to be with Lage in Rio Janeiro, Brazil.—Ralph H. Jackson (VI.), 335 Centre Street, Jamaica Plain, Mass., with the New England Telephone and Telegraph Company, traffic engineering department, charge of magneto equipments.—Arthur Harold Jansson (XIII.), Mt. Pleasant Avenue, Malden, Mass., student at M. I. T.—Charles Edward Johnson (II.), 119 Trenton Street, East Boston, Mass., traffic department, New England Telephone and Telegraph Company.—Joseph W. Johnson (II.), 30 Sumner Street, Dorchester, Mass., with George F. Blake Manufacturing Company.—Karl F. Juengling (II.), 461 Dunham Avenue, Cleveland, Ohio, with A. G. McKee, blast furnace engineer.—Isa W. Kahn (VI.), Homestead Steel Works, care of Electrical Department, Munhall, Pa., electrical engineering office.—C. L. Kasson (VI.), 10 Thetford Avenue, Dorchester Centre, Mass., with Boston & Northern Street Railroad Company, rail bonding, electrolysis, and power distribution work.—Andrew Hamilton Keleher (VI.), care New York Edison Company, 55 Duane Street, New York City, electrical draughtsman, "(starting

only)."—Ralph D. Kelly (I.), Room 8, Union Station, Indianapolis, Ind., assistant on engineering corps of Pennsylvania Railroad Company, Lyons, Ind.—Burton Warren Kendall (VIII.), M. I. T., Boston, Mass., Assistant in Physics Department (Phys. Lab.), M. I. T.—Patrick J. Kennedy, Jr. (II.), 221 West 43d Street, New York City, assistant superintendent for O'Rourke Engineering and Construction Company, Pennsylvania Tunnels.—Andrew Kerr (VII.), 317 Forrest Street, Medford, Mass., president of Andrew Kerr Company, manufacturers of high-grade food products, malted cereals, etc., capitalist and real estate owner.—Howard W. Key (VI.), 773 State Street, Schenectady, N.Y., testing department, General Electric Company.—James W. Kidder (V.), 22 Brook Street, Somerville, Mass., traffic department of New England Telephone and Telegraph Company.—Ralph F. Knight (VI.), 49 Church Street, Hudson, Mass., student, M. I. T. '07.—F. S. Krag (II.) is with the B. F. Sturtevant Company, Boston, Mass.—Jorge Lage (II.) and H. O. C. Isenberg (II.) are reported in Rio Janeiro, Brazil.—Abraham L. Lampie (I.), 28 Greenwood Street, Dorchester, Mass., civil engineer with Boston & Maine Railroad.—Clarence E. Lasher (VI.), 19 Bedford Street, Lynn, Mass., student course, General Electric Company.—Ralph Chester Lawrence (Sp.), 26 Highland Avenue, Fitchburg, Mass., with S. S. & H. N. Lawrence, contractors and builders.—Waldron G. Lawrence (Sp.), 34 Sargent Street, Dorchester, Mass., draughting-room, Boston & Northern-Old Colony Street Railway Company's department of motive power and machinery.—Joseph Thomas Lawton, Jr. (II.), Joseph Thomas & Son, Baltimore, Md., draughtsman, "spoiling white paper by making mistakes and erasing."—Charles Tileston Leeds (I.), Washington Barracks, D.C., on duty with Company "H," Second Battalion of Engineers, U.S.A. Married to Miss Amy L. Shapleigh, Jan. 12, 1905. Has one child.—Harry L. Lewenberg (X.), P.O. Box 634, Berlin, N.H., draughtsman and assistant engineer, Burgess Sulphite Fibre Company, Berlin, N.H.—Fay W. Libby (III.), care Nipissing Mining Company, Cobalt, Ontario, Canada.—Hunter Ulrich Light (II.) is reported at 40 West 30th Street, Bayonne, N.J.—M. T. Lightner (II.) is travelling. Particulars expected

later.—William H. Lincoln (I.), 125 East 28th Street, New York City, with Penn. New York & Long Island Railroad.—Fred C. Line (III.), 50 Rowley Street, Rochester, N.Y., thirteen months as transitman and resident engineer on Buffalo, Lockport & Rochester Electric Railway. Has returned to the Institute, '07 and III.—Frank Logan (IV.), 1318 Vine Place, Minneapolis, Minn., with engineering department, Northwestern Telephone Exchange Company.—Dan Austin Loomis (XIII.), Technology Chambers, Boston, Mass., student at Institute.—Forrest W. Lord (Sp.), 142 East Emerson Street, Melrose, Mass., shipper and salesman in N. & G. W. Lord Company, net seines and twines.—Harold Lord (IV.), 30 Auburn Street, Malden, Mass., engineer with Eastern Expanded Metal Company, Paddock Building, Boston, Mass.—Charles G. Loring (IV.), care Baring Bros., London, England, studying architecture in Paris.—Henry Delano Loring (I.), Whitestone, 61 21st Street, New York City, assistant superintendent of construction, Fort Tatten, N.Y., government supervision and laying out of contract work on roads, grading, walks, etc. Intends to resume study at Institute this fall.—William T. Lourie (II.), 144 West Rayen Avenue, Youngstown, Ohio, draughtsman, Carnegie Steel Company, Ohio Works.—Robert F. Luce (I.). From the Melrose (Mass.) *Free Press*, Aug. 3, 1906: "Robert F. Luce, of this city, went to Washington last week in response to a message informing him that he had received an appointment in the Harbor and Coast Survey service. Mr. Luce is a graduate from Melrose High School, and has been taking a course at Tech. He passed his civil service examination very successfully some time ago. He passed his examinations at Washington as successfully, and has been assigned to the United States vessel 'Bache,' now stationed off Little Deer Island, Rockland, Me."—William J. Lumbert (IV.), Box 287, Walpole, Mass., civil engineer, N. Y., N. H. & H. R.R.—Clifford Lynde (I.), Union Station, Oil City, Pa., rodman with Pennsylvania Railroad.—Robert J. Lyons (XIII.), Culebra, Canal Zone, Panama, mechanical draughtsman, motive power department.—James R. McClintock (XI.), 170 Broadway, New York City, engineer with Messrs. Hering & Fuller, consulting engineers.—Claude McGinnis (VIII.),

Greenville, Ill. To return as Assistant in Physics Department, M. I. T.—Richard V. McKay (VI.), East Milton, Mass. During the summer McKay accompanied his mother on a three months' trip in the British Isles and France for the benefit of Mrs. McKay's health. Sailing from New York June 16, their itinerary included: Londonderry, a tour in the northern part of Ireland to Belfast; thence Glasgow, the beautiful Scott and Rob Roy country to Edinburgh; Melrose, Leeds, Sheffield, Derby, and London; a week in Paris; then, via London, Manchester, and Liverpool, to Dublin, and a tour of the western part of Ireland; thence to Cork and Queenstown, where they sailed for Boston on September 5. They enjoyed the trip, and Mrs. McKay was much benefited.—Joseph Newall McKernan (I.), 37 Court Street, Houlton, Me., draughtsman with Bangor & Aroostook Railroad, chief engineer's office.—Herbert James Mann (II.), 751 Pinegrove Avenue, Chicago, Ill., draughting for Hammond Packing Company, Union Stock Yards.—Paul Ford Mann (IV.), care American Express Company, Paris, France, architect.—Eleanor Manning (IV.), 26 Beacon Hill Avenue, Lynn, Mass., architectural decorator.—Edward S. Manson (VI.), M. I. T., Boston, Mass., post-graduate work at M. I. T.—William E. H. Mathison (III.) is reported to have been spending the summer at the seashore at Madison, Conn.—Louis Henry Maxfield (XIII.), 627 Goodrich Avenue, Annapolis, Md., midshipman, United States Navy.—Edward Leodore Mayberry (IV.), 1054 East Ocean Avenue, Los Angeles, Cal., architectural engineer. Married to Miss Ada Stevens Phillips, Jan. 24, 1901.—Harry C. Merriam (V.), 201 East Orinon Avenue, Pueblo, Col., chemist and assaying with the American Smelting and Refining Company.—Louis Francisco Mesmer (I.), 242 Newbury Street, Boston, Mass., graduate student, M. I. T., Course I. Like many others, he "has hopes" of making further announcements.—Winthrop N. Messenger (VI.), 283 Vinton Street, Melrose Highlands, Mass., traffic work, New England Telephone and Telegraph Company.—James G. Moore (IV.), student at M. I. T., '07.—C. Burrows Morey (VIII.), 101 Depew Avenue, Buffalo, N Y., chemist, American Radiator Company, Pierce Plant.—John Missroon Morris (VI.), 527 South Main Street, Los Angeles, Cal.,

engineering, Los Angeles office of Westinghouse Electric and Manufacturing Company, investigating troubles, making engineering reports, recommendations, etc.—Harold Morse (VI.), 392 Fourth Street, Brooklyn, N.Y., with New York & New Jersey Telephone Company.—Charles W. Mowry (II.), 425 Quincy Street, Dorchester, Mass., surveyor and draughtsman with Associated Factory Mutual Fire Insurance Companies.—Harold K. Munroe (VI.), 43 Warren Avenue, Woburn Mass., with Stone & Webster, Boston, Mass.—John E. Murphy (III.), Bovey, Minn., engineer, Holman Mine, Oliver Iron Mining Company.—Samuel A. Nash (II.), 77 Toxteth Street, Brookline, Mass., salesman, Carter, Rice & Co., 246 Devonshire Street, Boston, Mass., wholesale paper jobbers.—Wallace Newberger (II.), 763 6th Street, Louisville, Ky., student in Kentucky State College.—Sherley P. Newton (V.), M. I. T., Boston, Mass., private assistant to Dr. Gill, gas and oil analysis.—H. G. Nicholas (VI.), Back Bay Post-office, Boston, Mass., Two years in Australia, '04–06. Re-entered Tech to graduate with '08. Married to Miss R. Gard, July 31, 1906.—Utar James Nicholas (VI.), 263 Newbury Street, Boston, Mass., student at M. I. T., Course VI., Junior year. "Back to Tech again, but find few familiar faces among the students."—G. Curtis Noble, Jr. (IV.), architectural draughtsman for United States government at Washington, D.C., Treasury Department.—John F. Norton (V.), 132 Woodland Road, Auburndale, Mass., Assistant in Organic Chemistry at M. I. T.—Henry Lane Oaks (Sp.), South Framingham, Mass., service inspector and tester of exchanges, New England Telephone and Telegraph Company, Boston, Mass.—Alphonsus O'Farrell (XIII.), 82 Dustin Street, Brighton, Mass., surveying, Charles River Basin Commission.—Wilfred N. Oliver (II.), 360 Eleventh Avenue, S.W., Roanoke, Va., draughtsman, Virginia Bridge and Iron Company.—Harvey B. Orcutt (I.), 235 Fourth Avenue, Phœnixville, Pa., draughtsman with Phœnix Bridge Company.—R. E. Page (II.), 79 Worcester Street, Boston, Mass., draughtsman with Factory Mutual Insurance Company's Plan Department, 31 Milk Street, Boston, Mass.—Miss Jane Boit Patten (VII.), Simmons College, Boston, Mass.—Chadwell S. Peirce (I.), 936 Hinman Avenue,

Evanston, Ill., temporarily at Bovine, S.D., pile-driving inspector, C. & N.-W. Ry., constructing the P. R., C. & N.-W. Ry.—F. S. Phelps (II.), 88 Chatham Street, Worcester, Mass., with American Steel and Wire Company.—J. Sherman Pitkin (IV.), Box 1051, New Haven, Conn., architect.—Harold C. Plummer (III.), Globe, Gila County, Ariz., assistant mining engineer with the Old Dominion Copper Mining and Smelting Company.—James H. Polhemus (III.), "New Jersey Zn Company," Franklin Furnace, N.J., surface and underground surveying and general engineering.—Edward Barker Pollister (I.), 225 West 45th Street, New York City, distribution department of the New York Edison Company, 52 Duane Street, New York City.—Clarence B. Powell (VI.), 3411 Walnut Street, Philadelphia, Pa., equipment department, Bell Telephone Company of Philadelphia, and the Delaware & Atlantic Telegraph and Telephone Company.—Oscar S. Pulman, Jr. (X.), 1791 117th Street, Cleveland, Ohio, chemist, battery and research laboratory, National Carbon Company.—Willis Ranney, whose illness necessitated his leaving the Institute last January, will return this fall to finish his work in Course I. Ranney has been assistant engineer on the C. H. & D. Ry., with headquarters at Chillicothe, Ohio.—Russell P. Raynolds (III.), 670 3d Avenue, Durango, Col., chemist, Durango Plant, American Smelting and Refining Company.—Roger Leavitt Rice (VII.), care Great Lakes Engineering Works, St. Clair, Mich., head clerk of St. Clair Plant of above corporation.—Charles D. Richardson (VI.), 48 Highland Avenue, Cambridge, Mass., Assistant in Electrical Engineering Department, M. I. T., Boston.—Edward M. Richardson (Sp.), Lime Rock, Conn.—John Allen Root (III.), Technology Chambers, Boston, Assistant in Mining Department under Professor Lodge, M. I. T.—Robert J. Ross (III.), 86 Clifton Street, Belmont, Mass., mining engineer.—Edward B. Rowe (VIII.), 9 St. James Avenue, Boston, Assistant in Laboratory of Tech. Electrical Measurements, M. I. T., under Professor Laws. During vacation "Ned" was on a launch at Wolf Hill, Gloucester, Mass. It is surprising how stanch are some of our bachelors (not S.B.). It remains, however, to be seen whether one of the stanchest will not be among

the early captives.—Wiear L. Rowell (II.), Swampscott, Mass., experimental engineer and draughtsman, B. F. Sturtevant Company, Hyde Park, Mass.—Guy H. Ruggles (III.), Great Falls, Mont., care of B. & M. Co., "gas analyst, Boston & Montana Consolidated Cu and Ag Mining Co." We know Guy is hustling by the way he abbreviates the name.—Mary J. Ruggles (V.), 65 Wendell Street, Cambridge, Mass., student at Radcliffe, taking general work.—Nestor Manuel Seiglie (I.), Sagua la Grande, Cuba.—Charles Henry Shapleigh (II.), Vicksburg, Miss., civil engineer, New Orleans & N. E. R.R., Vicksburg, Miss.—Ray Elmer Shedd (I.), 212 Highland Avenue, Somerville, Mass., student at M. I. T.—William A. Sheldon (III.), care Taylor Park Mining Company, Dorchester, Col. "Bill" is up in the mountains at 13,000 feet altitude, and is hard at work as mining engineer, assayer, mine surveyor. Does some outside surveying over the mountain, and is general utility man, fixing up things in the way of broken machinery, etc.—Ralph Shurtleff (II.), 57 Prospect Street, Taunton, Mass., construction of motor boats and marine gas engines.—John E. Simmons (X.), 34 South Central Avenue, Wollaston, Mass., charge of washing powder department, Swift Soap Works, Somerville, Mass.—Guy C. Simpson (I.), 451 Wilson Avenue, Columbus, Ohio, assistant on engineering corps, Pennsylvania Railway Company Lines West of Pittsburg, S.W. System.—Harold C. Smith (XIII.), 3 Abbott Street, Newton Upper Falls, Mass., apprentice in mechanical engineering at Saco & Pettey's, manufacturers of cotton machinery.—Lemuel D. Smith (XIII.), 119 Post Street, Spokane, Wash., pressman in "The Winthrop Press" (temporarily).—Miss Lillie C. Smith (XII., '01 and '06), 163 Huntington Avenue, Boston, Mass., teacher in Brookline High School.—Walter Smith (IV.), Annapolis, Md., midshipman, United States Navy.—Ralph N. Soule (VI.), 215 West 23d Street, New York City, traffic department, New York Telephone Company.—Walter C. Spencer (I.), 162 Peace Street, Providence, R.I., with the American Locomotive Company.—Philip B. Stanley (II.), 411 McNair Street, Wilkinsburg, Pa., apprenticeship course in Westinghouse Electric and Manufacturing Company.—Everett C. Stanton (VI.), Box 367, Sharon, Mass.,

student course, engineering department of New England Telephone and Telegraph Company, Boston, Mass.—E. T. Steel (VI.) is reported to have gone to Porto Rico for Stone & Webster.—Albert L. Stephens (III.), Aguascalientes, Ags., Mex., with American Smelting and Refining Company.—C. C. Stevens (X.), Ritzville, Wash.—C. H. Sutherland, (Sp.), Westport, Cal., assistant superintendent, with California Lumber Company.—Arthur Wilbour Talbot (VI.), 3 Nottingham Street, Dorchester, Mass.—F. A. Tarr (II.), 75 Thorndike Street, Cambridge, Mass., with the Vacuum Process Company.—Allyn C. Taylor (II.), 6700 North 8th Street, Oak Lane, Philadelphia, Pa., distribution department, United Gas Improvement Company.—De Witt M. Taylor (II.), Blairsville, Pa., master mechanic, erecting the Josephine Furnace of the Josephine Furnace and Coke Company, Josephine, Pa. Married June 6, 1906, to Miss Dorothy H. Hersome.—Wendell P. Terrell (II.), 73 South Elm Street, Lynn, Mass., draughtsman, General Electric Company, Lynn, Mass. Expects to leave soon to teach in the Prairie View State Normal and Industrial Institute, Texas.—K. E. Terry, Jr. (VI.), 714 Washington Street, Dorchester, Mass., with the American Tool and Machine Company, Boston, Mass.—Arthur S. Thomas (II.), 809 Continental Trust Building, Baltimore, Md., mechanical engineer with Consolidated Cotton Duck Company.—Louis A. Thompson (VI.), care Pensacola Electric Company, Pensacola, Fla.—Fred B. Thurber (Sp.), 229 Waterman Street, Providence, R.I., salesman with Tilden Thurber Company, retail jewellers and silversmiths.—Percy E. Tillson (VI.), 6700 North 8th Street, Oak Lane, Philadelphia, Pa., with engineering department, Bell Telephone Company.—Walter Haywood Trask (II.), Room 1229, Grand Central Station, New York City, inspector steam engineering department, N. Y. C. & H. R. R.R.—Louis H. Tripp (II.), 42 Rutland Square, Boston, Mass., with Professor S. H. Woodbridge.—Arthur T. Trowbridge, (II.), 555 Warren Street, Hudson, N.Y., draughtsman with the Gifford-Wood Company, designing ice-handling machinery for natural and manufactured ice.—Clarence E. Tucker (V.), Hyde Park Avenue, Hyde Park, Mass., in the testing laboratory of Asso-

ciated Factory Mutual Fire Insurance Company, 31 Milk Street, Boston, Mass.—Louis Tuckerman (II.), 1365 Ogden Street, Denver, Col., has been with the C. H. Shaw Pneumatic Tool Company of Denver as draughtsman. Is now in same capacity with the C. F. & I.—Henry M. Udale (II.), Tech Chambers, Boston, Mass., student at M. I. T.—William Martin Van Amringe (X.), 29 Crawford Street, Boston, Mass., real estate.—F. J. Van Hook (I.), care Big Four Railroad Company, Wabash, Ind., assistant engineer, maintenance of way, Michigan Division, C., C., C. & St. L. Ry.—W. G. Waldo, formerly '06, has been with the Cincinnati & Northern Traction Company for about five months since leaving Tech. He will return this fall to complete his course.—William F. Walker (II.), 167 Andover Street, Lawrence, Mass., office of the Wood Worsted Mills of Lawrence. Walker is to be numbered among the infinitely happy.—William J. Walsh (X.), 5 Woodville Street, Roxbury, Mass., Assistant in Heat Measurements, M. I. T. —Arthur Percy Watt (III.), 176 Forest Street, Winchester, Mass., Assistant in Mining Department, M. I. T.—Lawrence Burns Webster (VII.), Marion, Ind., graduated from Harvard 1906. Is now travelling in Europe. Not as yet engaged in business.—Arthur Edward Wells (III.), A. V. Smelter, Leadville, Col., metallurgical chemist, with American Smelting and Refining Company.—Charles F. W. Wetterer (IV.). From the Gloucester (Mass.) *Times* of June 12, 1906: "The many friends of Charles F. W. Wetterer, who graduated from the Massachusetts Institute of Technology last Wednesday, will be pleased to learn that he has been appointed to a lucrative position with the Ponce Electrical Company at Ponce, Porto Rico. Mr. Wetterer graduated among the high liners of his class, and was class historian and very popular among his associates. He will sail from New York June 30." Later by direct report from "Wet": care Dallas Electric Company, Dallas, Tex., acting as secretary to the district manager of Stone & Webster's Texas properties. Married July 10, 1906, to Miss Elizabeth Paten, of Roxbury, Mass. "Wet" says of Texas: "A growing country and lots doing in a business line down here, but there's too much summer to suit me. Six months of d— hot weather."—George F. White (V.), Franklin

Park, Mass., Assistant in Analytical Chemistry at M. I. T.—N. A. White (XIII.) ventured out into the wilds of Minnesota during the summer, but is reported to have returned home safely. Later we have his address as 1515 Girard Avenue, Philadelphia, Pa., shipfitter, William Cramp & Sons Ship and Engine Building Company, Philadelphia, Pa.—Herbert S. Whiting (VI)., 274 Seaver Street, Roxbury, Mass., with American Telephone and Telegraph Company, 125 Milk Street, Boston, Mass.—Bernard F. Whittaker (Sp.), 10 Front Street, Worcester, Mass., chemist with Hall & Lyons Company, Worcester, Mass.—Malcolm G. Wight (I.), 334 Washington Street, Wellesley Hills, Mass., special student at M. I. T.—C. R. Wilfley (III.), Maryville, Mo., for the summer assistant city engineer; going West later. His friends will be glad to know that he has been enjoying a lot of outdoor life, and is in much better health.—H. S. Wilkins (II.), M. I. T., Boston, Mass., student at M. I. T., '07.—Frederick H. Willcox (V.), M. I. T., Boston, Mass., Assistant in Analytical Chemistry, M. I. T.—Herbert L. Williams (III.), 110 South Mill Street, Lead, S. D., with Globe Gold Mining Company (see letter below).—James R. Williams (II.), 196 South 18th Street, Quincy, Ill., in office of Quincy Engine Works.—Edward L. Wilson (II.), 904 East Capitol Street, Washington, D.C., heating and ventilating draughtsman, with S. H. Woodbridge, on United States National Museum.—J. Cazeneuve Wilson (VI.), Pass Christian, Miss., electrician. At present he is in Denver, Col.—Dana W. Wood (I.), 35 Myrtle Street, Belmont, Mass., temporary work: installation of water supply system for a hospital in Gravenhurst, Canada, and stadia surveys on same. Will be another year at M. I. T.—Ira V. Woodbury (III.), 72 Lothrop Street, Beverly, Mass., corporation secretary with Seymour & Jackson, shoe manufacturers, Lynn, Mass.—Julian M. Wright (XIII.), 10 Charles Street, Boston, Mass., student at M. I. T.—William H. P. Wright (XIII.), 172 Jackson Street, Lawrence, Mass. We are sorry to learn that Wright is not working at present on account of severe illness.—Walter B. Wyman (Sp.), Crown Point, Essex Co., N.Y., assistant cashier with J. W. Wyman, banker.—G. Chester Young (II.), 10 Rawson Street, Dorchester, Mass., assistant superintendent in bridge

foundation work for Atlantic Construction Company.—Herminio Yrizarry (I.), Box 82, San German, Porto Rico, surveying private land at San German, P.R.

The secretaries will be glad to furnish information concerning the location of '06 men. We would like to be advised of any corrections or any changes in addresses. In every case it is necessary to give full addresses, since we are not always likely to guess correctly in which State and town the correspondent resides. Please do not abbreviate names of companies.

Now that "Wet" has deserted the ranks of 1906 bachelors, there are several signs of weakening among our sternest warriors. We shall not mention any names, but advise our classmates to watch these columns closely.

During August there was quite a little reunion of '06 men at Columbus, Ohio. Davenport, Farwell, Lincoln, Bartlett, and Hinckley, with Ranney, formerly '06, were the principals. Davenport, Farwell, and Bartlett are with the Pennsylvania at Pittsburg. Lincoln is now on tunnel work at New York. Hinckley is in Columbus, and Ranney expects to finish Tech this year.

Eliot (VI.) has been spending the summer at Eastern Point, Gloucester. During the course of the season he gave a house party, which Banash (VIII.), Rowe (VIII.), Root (III.), and Heywood (III.) attended. In early September Eliot started for Tacoma, Wash., to begin work. Last wire from him announces his latest haven of refuge as Post Falls, Ida. This is far from the maddening girls with a vengeance.

D. C. Davis (VI.), H. W. Dean (VI.), and P. E. Tillson (VI.) are all with the same company in Philadelphia. These three men, and A. C. Taylor (II.) of another company, are living together. Davis reports gay times. "No lack of Tech spirit." That's the way to get together.

We have heard from "Wee" Williams:—

LEAD, SOUTH DAKOTA, 110 South Mill Street, care of N. D. Pool, Sept. 13, 1906.

My dear Angelo,—I was in Chicago with Herbert Mann when his notice from you arrived, and it reminded me that I had intended writing you for

a long time, but, as I always do, had kept putting it off. Having a little time on my hands now, I think I'll drop you a line or two, and let you know where I am, what I've been doing, and how things are going. . . .

"Wee" surprises us by writing that he is not going to Mexico, but has been out at Sault Sainte Marie, Ontario, Canada, with the Algoma Steel Company, and is now located in the Black Hills with the Globe Gold Mining Company. Continuing, he writes:—

I stopped in Chicago on my way out, and spent a week with friends there, and arrived in Deadwood last Sunday. Lead, about three miles away, is, however, nearer the mine, so I'm living here, and I like the country very much. I haven't started in work yet, so can't tell how I shall like that, but I'm looking forward to it keenly. I saw Fay Libby up in Canada, and have heard from George Henderson and Guy Ruggles. All were happy and prosperous at last accounts. I should like to hear from you, and find out how things are going without '06 at the old school. How do you like your job? In some ways I wish I were with you, but I think the West is for mine, after all. I wish you would send me a "Register of Graduates," so I can find out whether any old Tech men are employed out here. Do you know if Mr. Batchellor, who told the Mechanical Engineering Society last winter about the Homestake works, is here? I haven't been able to locate him. . . .

I only wish I could drop in at some of the [class] dinners. Remember me to all the boys who come back, and write to me.

News, boys, news! That is what we want, and you must help us get it. Two men out of 550 cannot hope to follow up all the interesting little episodes which go to make up the lives of all '06 men. Send us any little bit of information about yourself or any of your classmates that you can rake or scrape together, and we will be only too glad to print it. It does not make a bit of difference what you did or didn't do at M. I. T. We are all in the same boat now, and, if we want to set any kind of an example in class spirit and good fellowship, little things like this must not be overlooked. Send us the news, and keep on sending it whenever there's anything to write about.

IN MEMORIAM

George Francis Clay (XIII.), died of pneumonia July 31, 1904.

Perley Kennison Dodge (VI.), killed by electric shock March 19, 1906, in Beverly, Mass.

Frank Calvin Farnsworth (IV.), died June 1, 1905.

Alfred Dalton Gere (Sp.), drowned in Connecticut River, while a Junior at Dartmouth, Sept. 22, 1905.

Addison Haynes Nordyke, Jr. (Sp.), died of typhoid fever Sept. 25, 1905, at his home in Indianapolis, Ind.

Samuel Rogers Spinney (VI.), (II.).