The Technology Review

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PITTSBURGH DOES ITSELF PROUD

Third convention of Technology Clubs Associated most successful and profitable—Next meeting in Boston

Each meeting of the Technology Clubs Associated has certain characteristics which differ from those which have preceded it. The meeting in Pittsburgh February 19 and 20 carried an element of intimacy that was noticed in every one of the functions scheduled, and made the delegates to the convention feel that they were attending a family reunion. It was the first time that the associated clubs had met outside of a great metropolis, but the organization in Pittsburgh was so complete and its resources were so ably conserved that it lost nothing by comparison with the meetings that have gone before it but emphasized the strength and stability of the Pittsburgh Association in carrying through a difficult program so successfully. The Pittsburgh meeting was also memorable from the fact that February 20, the closing day of the reunion, was the fiftieth anniversary of the opening of the Institute to students. This fact was alluded to by President Maclaurin in his speech delivered at the banquet.

The Boston delegation, which left for New York at 1 p. m., February 18, was met by the delegates of the New York Club at the Grand Central Station and escorted to the club house, 17 Gramercy Park, where a special dinner was prepared and a hearty welcome was given by a large number of club members who had formed themselves into a reception committee. Over thirty Tech men from New York and Boston took the train for Pittsburgh that night, and the next morning were welcomed by President Morris Knowles, '91, of the Technology Clubs Associated, and a reception committee which came over to meet the train. Automobiles took the delegates to headquarters at Hotel Schenley where every preparation had been made for looking after the comfort of the delegates and guests.

Tech men from all over the country were arriving at headquarters and old friendships were renewed as classmates and friends met together for the first time in many years.

The facilities for registration were complete in every way, each delegate receiving besides his tickets to the stated functions, cards to the University Club and the Athletic Club, which were situated just across the street from Hotel Schenley. This was a very pleasant feature of the meeting and made the men feel at home wherever they were, as the functions were divided up between Hotel Schenley and the two nearby clubs.

On the walls of the reception parlor and the registration office were hung the exhibit of the Architectural Department, which was sent in connection with the Course IV luncheon, and in the reception room was the exhibit of the Institute Committee, showing the organization of students and interesting facts in connection with the more important activities. This exhibit was shown later in the University Club at the smoker.

One of the pleasantest features of the reunion was the thoughtful attention which was given to the comfort and pleas-

ure of the visiting ladies by a large and effective committee of Tech women of Pittsburgh, who not only extended hospitality to the women, but also assisted in helping the general committee to entertain the visitors.

The program arranged for the visiting ladies was very full and interesting. On Friday afternoon and Saturday morning those who so desired joined practically any excursion that was scheduled for the men. On Friday afternoon they were guests at the Twentieth Century Club House where tea was served. This was located only a block from the Schenley Hotel. On Friday evening, when the smoker was in progress, through the courtesy of the Carnegie Institute of Technology, all the ladies were invited to attend a performance of *Iphigenia in Tauris*, which was given by the students of the dramatic department of the School of Applied Design in the theatre of the school. On Saturday noon, through the courtesy of the University of Pittsburgh, the visiting ladies were invited to a luncheon at Schenley Hotel. On Saturday evening, they attended the banquet of the Technology Clubs Associated.

An amusing object in the reception parlor was a large bean pot flanked by two miniature coal scuttles fllled with coal and decorated with the flags of all nations. This was labeled "Boston to Pittsburgh 1915" and was the offering of the New York Technology Club, brought on by its delegates.

The class luncheons were held in the large dining room of the Schenley, the tables being arranged so that classes sat together. On the first day of registration the class of '98 had the largest number of members present, but the class of '09 rolled in reënforcements on the second day and won the banner, which was presented at the banquet on Saturday evening.

The luncheon was absolutely informal. Several of the classes offered choice musical stunts and novel cheers. Professor Richards, '68, Morris Knowles, '91, and the ladies, were cheered to the echo, and "Arch" Eicher, '12, as the cheer and song leader, got out all the noise there was in the congregation.

Following the luncheon were a number of excursions to various places, competent guides and transportation being provided by the committee. During the afternoon guests continued to arrive from the four points of the compass.

The great hall at the University Club was well filled with Tech men at eight o'clock when the smoker, furnished by the Pittsburgh Association, was started. This smoker was one of the delightful features of the reunion. Probably never before have so many Tech men got into such close personal touch for a whole evening as they did on this occasion. Guests on arrival were provided with a sporty cardinal and gray baseball cap and a ration box labelled "Laboratory Supplies" to be hung by a ribbon from the shoulder, containing a pipe, tobacco, cigars, matches and a song book. As one entered the room he began to feel at home at once, for there immediately before him was a replica of the front of "chapel"—and that this was no illusion was proved by simply entering the door and making a proper investigation. The committee provided a very bountiful and delicious buffet luncheon and also a large number of special entertainers to while away the hours of the evening. Let it be said right here that these special entertainers never got a chance to materialize! The musicians provided by the committee started the singing going, and after an hour of it the delegates rolled the piano into the middle of the floor and sang until the day had long ended. During the evening a number of impromptu stunts were pulled off, among which was the initiation of prominent members of the Technology Clubs Associated into the "Order of the Little Yellow Dog."

During the evening the election of new officers of the Technology Clubs Associated was held, and the following were chosen: President, James W. Rollins, '78, of Boston; vice-presidents: Walter Large, '79, of New York; H. M. Montgomery, '79, of Chicago; E. B. Raymond, '90, of Pittsburgh; Hollis Godfrey, '98, of Philadelphia; P. W. Litchfield, '96, Akron, Ohio, and J. H. Haste, '96, of Rochester, New York. The secretary-treasurer is

Walter Humphreys, '97, of Boston. It was decided to hold the next meeting of the clubs in Boston in June, 1916.

I. W. Litchfield, '85, on behalf of the Rand Memorial Committee, stated that the response to the committee's appeal had been about one-third of what was expected, and Harry A. Rapelye, '08, associate secretary of the Technology Clubs Associated, and secretary of the Pittsburgh Association, was made a committee

Morris Knowles, '91
President of the Technology Clubs Associated

of one to receive contributions from those who desire to help increase the fund.

Saturday morning was taken up with excursions to various points of interest. A number of men who had been unable to come on Friday, registered during the morning.

The course luncheons, which were held Saturday noon, were of unusual interest. Six groups met in as many places at the University Club and Hotel Schenley, at which constructive criticism of the courses was the distinctive feature. Each course was represented by a Faculty representative, and the committee in charge of the course luncheons had worked out the plan so well that the desired object was fully realized. The real value of these suggestions was due to the fact that the speakers had carefully studied the catalogue and had secured correct information so that they were conversant with the conduct of the courses. A member of the committee presided at each group and called on two or three men for short talks bearing on the course he represented. In many cases the Faculty representative was able to show that a number of the suggestions had already been considered. Many of the suggestions were welcomed as of direct benefit to the department and such of them as can be used will be put into effect. The professors who attended these meetings have expressed themselves as highly pleased and benefited by the discussion. In other words, the committee, in adopting this new feature, accomplished exactly what they desired to accomplish in a sympathetic constructive way. In subsequent issues of the REVIEW some of these matters will be taken up, as opportunity is not afforded here.

At the Course II luncheon and at two other luncheons suggestions were made which are likely to have an important influence. At the Course II luncheon, Charles F. F. Campbell, '01, secretary of the Ohio State Commission for the Blind and editor of the *Outlook for the Blind*, urged that every student be given at least a survey of the modern methods which are being used in all the best-organized industries to conserve the health and happiness and efficiency of employees. If boards of directors paid half as much attention, said he, to the condition of their employees that they do to the condition of their machines, the returns in happiness could not be measured, to say nothing of the vastly increased returns in dividends. His plea was not entirely from a philanthropic standpoint but was based on simple business laws. We were taught at Technology to study material and machinery with a view of securing the very best results for the purposes desired, but we give no particular thought or attention to the human

element that forms the greater part of the investment. Men should be examined with reference to their intelligence and eye-sight and their physical condition, and all of these could be improved in the working force of every factory to the great advantage of the employer. He spoke of a number of concerns that were going into this question in one way or another, and his suggestions seemed so pertinent that a committee of three, consisting of Charles F. F. Campbell, '01, A. T. Hopkins, '97, of the Mechanical Rubber Company of Cleveland, Ohio; P. W. Litchfield, '96, of the Goodyear Rubber Company of Akron, Ohio, was appointed to investigate this matter and present its findings to the Alumni Council of the Alumni Association.

The course luncheons were so interesting that some of the sessions continued until nearly five o'clock.

The banquet in the evening was the crowning feature of the convention. It was held in the large dining room of Hotel Schenley, which was beautifully decorated. The guests were seated by classes; and one could find immediately the location of any of the guests from the seating directory which was found at each place. Music was furnished by the Greater Pittsburgh Quartet, which was reënforced during the evening by some choice female voices and rendered the "Sextette from Lucia," which brought forth a perfect storm of applause.

Just before the speeches the room was darkened and a number of slides showing the progress that is being made on the new buildings were shown on the screen. Unfortunately there was not opportunity to properly describe the pictures in the limited time available.

After dinner, President Morris Knowles announced that the long-distance cup, which is annually given to the delegate coming the greatest distance, was awarded to C. W. Goodale, '75, manager of the Boston and Montana Department of the Anaconda Copper and Silver Company, Butte, Montana. In receiving the trophy, Mr. Goodale made a happy speech in which he presented the felicitations of the Technology Club of Montana. The banner for the largest class attendance was awarded to the class of 1909. President Knowles then presented a beautiful bouquet of flowers to Professor Robert H. Richards, '68, with congratulations on the conclusion of fifty years of connection with the Institute of Technology. Mr. Knowles then introduced C. S. Robinson, '84, of Youngstown, Ohio, president of the Pittsburgh Association, as toastmaster of the evening. Mr. Robinson made a happy allusion to the presence of so many ladies and then called on Dr. John A. Brashear, president of the American Society of Mechanical Engineers.

It is, indeed, a great pleasure for me to be with you on this occasion, and particularly so because of the presence of your ladies and that of your good President, for whom I have a very great affection, indeed, since I know that, while he has devoted his splendid energies to science in its larger aspects, as well as to the development of your Alma Mater, he has not forgotten the wayfaring man—he who would know some of the beautiful things in science, but who has had no such opportunities within his grasp as you good fellows have had who are alumni of the M. I. T.

I am the fortunate possessor of a copy of his lectures on "Light," with a most beautiful inscription on the fly-leaf by its author, that I prize beyond measure, and I can imagine how his hearers in the American Museum of Natural History would appreciate the story he brought within the comprehension of those earnest plodders in his audience. I have loved the man ever since I read his book.

I was one of the guests of the British Association for the Advancement of Science at their meeting in Toronto in 1899. May I tell you an incident that occurred at one of the convocations which made an impression upon my mind that I shall never forget? The degree of doctor of laws was to be conferred upon Lord Lister who, you all know, was the discoverer of the antiseptic method of treating wounds. There were many notables present, among them Lord and Lady Aberdeen, Lord Kelvin, Ramsey, Rutherford, and a host of others. When the degree had been presented to Lister by Dr. Louden, president of the University of Toronto, the dear old man in his kindly way responded, "I do not know why the world has conferred so many honors upon me. I appreciate them all, I assure you, none the less this new honor that comes from your university, but"—and here the great soul, a veritable picture of manhood, hesitated a moment, and then said, "If I have done aught in my life's work to assuage human suffering, I am better repaid than by all the degrees that can be conferred upon me."

There was dead silence for a moment; then a burst of applause came from that vast audience, giving evidence of what those words meant.

And now for the application of this story: Nine years ago the death-rate in our city from typhoid fever was 130 per hundred thousand, and eight years

ago, in 1907, it was 125 per hundred thousand. This appalling death-rate caused the officials of our city to ask the question, "Why is it, and can it be prevented?" To their honor, they called one of the graduates of your splendid institution, Mr. Allen Hazen, by whose splendid engineering skill the problem of our present filtration system was devised, and then to carry it out practically, another graduate of the M. I. T., who is your president tonight, our dear friend Morris Knowles, was selected. These men, with their associates, did their work so well that the record for the year following the completion of the filtration plant, in 1908, shows the death-rate to have been reduced to 48.7 to one hundred thousand persons. In 1909 it had been reduced to 24.6, and in 1912, by the use of calcium hypochlorite, the rate had been again reduced 100 per cent, so that the death-rate was 12.7 as compared with 130.3 in 1906. I am sure you will now say that the application of my story of Lord Lister is well put. The death-rate for last year was but 15.2 to one hundred thousand inhabitants. It is needless to say that these two splendid men are only types of the men who have graduated from the M. I. T. With some of them I have been associated almost since childhood, and I need only to speak of the magnificent work of Dr. George Ellery Hale, who perhaps, with his associates, has accomplished more by his astrophysical researches than any investigator in his line, and he is still a young man.

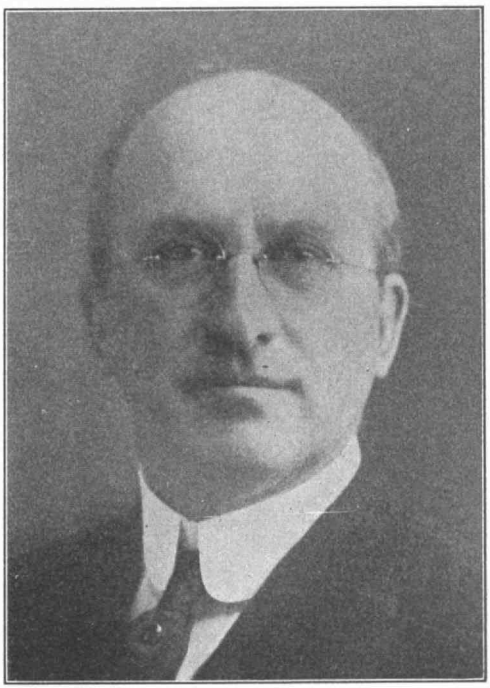
Pittsburgh has been credited, in the pamphlet that has been laid before you, with great progress in industrial art; much of it is due to the university men who have come into our midst, and from Massachusetts Institute there are many of whom we are very proud. Twenty-five years ago there were very few university men associated with our industries; I am sure I am not overestimating when I say there are now over eight thousand of such men connected with our various industries at the present time, and they have made good.

As to my own association with the men whose investigations and discoveries have been epoch-making in the history of our good city, in the brief time at my command I can only speak of a few: My dear friend, Professor Langley, was the first to take up the question of standard time for the railroads, although a few desultory signals had been sent from the United States Naval Observatory. Professor Langley took up the work in his characteristic and thorough manner and, coming from Harvard to our city, we are glad to record that so close an associate to your institution in his life work brought about standardization of time into the railroad system, for in 1870 nearly six thousand miles of railroad received the time signals from the Allegheny Observatory, and in our institution we are proud to say that the time service has been so effective that the mean error of last year's signals was only thirty-two hundredths of a second.

The investigations of Professor Langley at the old observatory, and continued at the Smithsonian Institute, in his study of the why of organic life upon the earth, through discoveries made with the spectro-bolometer and rock salt trains, our city may well be proud of—not only because of Langley's great work, but because a citizen of Pittsburgh, well known in the earlier days of research, enabled Langley and Keeler to make these wonderful contributions to science.

It is no doubt well known to each one of those who listen to me that at the Allegheny Observatory, Langley's studies of aviation, with particular reference to the heavier-than-air machines, were made, and I believe the world today gives him very great credit for these masterly pioneer studies.

Pittsburgh is also happy in having an endowment of one quarter of a million dollars for the benefit and betterment of teaching in its public schools. This endowment, given by a private citizen, has enabled the Educational Fund Commission to send over six hundred teachers to universities for their summer studies in the last five years, and the good work is going on.



W. E. Mott, '89
Past President of the Pittsburgh Association

Great benefit has come to us and our good friend Superintendent Davidson, at the head of the public schools, tells us he has found no such inspiration in any body of teachers with which he has been associated.

It would be almost invidious for me to tell you of the marvelous work in mechanical and commercial lines for human betterment and safety as was brought about by the investigations of my dear personal friend, George Westinghouse. The world knows of his great work developed here in the city of Pittsburgh, with its innumerable phases and its splendid results. Some of your men have helped in this great scheme and all credit is due them.

It would savor of the ego for me to say anything of our connection with the astronomical, astro-

physical and astrophotographic developments in our own special line during the last thirty years, so I will leave that story for others to tell, but inasmuch as the limit of my time has been reached, I am only going to add one other thing of which Pittsburgh can be proud. Its citizens have given the money for a magnificent observatory and equipment in memory of the great men who have been associated in former years with it, and one department has been arranged and forever dedicated to the use of the people. During the past five years fourteen thousand five hundred persons have enjoyed the beauties of the skies—a privilege which would not have been theirs had this department of the observatory not been opened to them, and may I hope to see the day when every city in the United States will have such an institution, free to the people, as they have their libraries, their art institutions, and their museums. And let me say a final word to this splendid association; that is, not only is it your place in the world's work to be great engineers or great technical men in any line, but it is your privilege to give some of the knowledge that you have received to the layman, to the struggling amateur, to every one whose opportunities have been limited, for in doing this you can carry blessings with you and make the world better for your living in it. Take the motto that has helped me in my work, given me by my good friend, Capt. Jack Crawford, the scout poet:

"When a bit of sunshine hits ye,
After passing of a cloud,
When a bit of laughter gits ye
An' yer spine is feelin' proud,
Don't forgit to up and fling it
At a soul that's feelin' blue,
For the minit that ye sling it
It's a boomerang to you."

Toastmaster Robinson next introduced Dr. Richard C. Maclaurin, president of the Institute, who spoke as follows:

It is peculiarly stimulating to address a gathering such as this on the 20th of February—a day memorable in the annals of Technology. It was exactly fifty years ago today on the 20th of February 1865 that the preliminary course at Technology was open and Rogers entered in his diary "Organized the School! Fifteen students entered. May not this prove a memorable day!" His wishes and hopes have been abundantly fulfilled for the day indeed proved a memorable one. It is wonderful to contemplate what has been accomplished in the fifty years that have intervened, beginning with the frailty of infancy and little more than hope and reaching forth into the vigor and power that have come from years of great achievement. At the half-way mark of twenty-five years Lowell could say of Technology that it was "preëminently a leader in education." Its methods had affected education generally and profoundly changed the current of educational progress. Beginning with these fifteen students "picked up" from the neighborhood of Boston as some have said, and "compelled in" as others have indicated, it has now over 1,800 men from all parts of the world drawn by the attractive power of its reputation. Great indeed in these fifty years have been the Institute's contributions to the advancement of science and to the application of scientific methods to practical problems and great have been the achievements of its alumni who for long have been found everywhere in positions of power and responsibility and everywhere commanding respect.

Very striking is the contrast between the circumstances of Technology today and those of fifty years ago, but there are some equally striking resemblances, some trifling, others of grave moment. Let us look at a few of them. Fifty years ago this country was in the midst of the great war—the greatest in its history—a war that involved great moral and economic issues that have vitally affected it ever since. Today we are witnessing a war on a far vaster scale involving moral and economic issues even more momentous. The clearing of the issues in the Civil War opened the way for material advancement and gave applied science its opportunity. There is no reason to suppose that history will not repeat itself in this respect. The present war is doubtless a terrible evil, more terrible than it seemed possible even to imagine, but it will not have proved an unmixed evil if it settles the fundamental moral issues that it raises; and whether it do this or not it will inevitably present a unique opportunity to this country for *relative* advancement, It is true, of course, as the war has already taught us, that the world is so bound together that to a certain extent one part must suffer with the rest. But on the economic side, this suffering on the part of America should prove but temporary. Looking ahead a little we can scarcely fail to see a great hope for this country. The exhaustion of the resources of Europe must put us *relatively* forward, and if we can take advantage of our opportunity we should be able to keep ahead for long if not indefinitely. Whether we can do this or not must depend on our trained intelligence, and we will surely fail unless we can apply the scientific method and spirit to every phase of the great problem. It seems to me that there was never a time in the history of America when it was so important that its schools of applied science should be the strongest in the world. We need them thus strong to train the rising generation to rise to the level of its opportunity and having put the country well in the forefront of economic advancement to keep it there.

As I have said, we must have our schools of applied science strong and of course I need not tell you that the strongest of all must be the good old M. I. T. It has been growing steadily in power and influence and in material resources for the last fifty years and it has grown in these respects with unwonted rapidity of late. Everything that has happened to it recently should give it greater stability and greater strength, not the least powerful of the strengthening forces being its alliance with Harvard. Having regard to its historic setting Harvard University is certainly the greatest in this country. An alliance with such an institution, on such terms as have actually been arranged, can scarcely fail to prove beneficial on other grounds that the mere increase of financial resources, important as that is and greatly as it is needed. The terms of the alliance were arranged so as to safe-

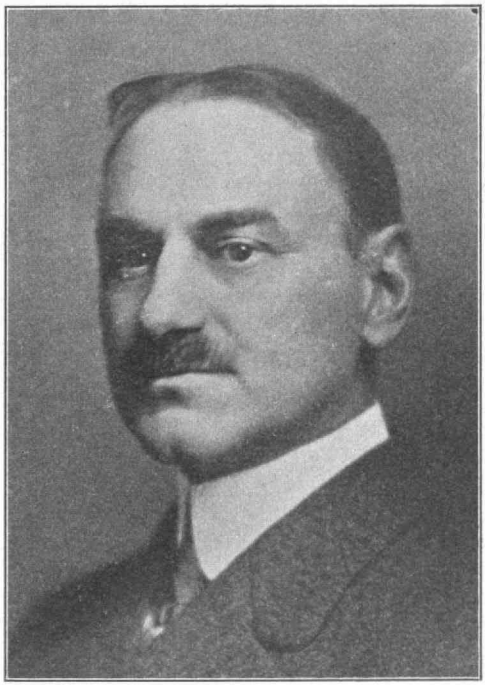
guard the independence of each institution and avoid the difficulties of dual control. They could not have been arranged as they have except for the mutual confidence of the two institutions. Since the agreement was entered into a question has been raised as to whether certain of its terms are in accordance with some of the trusts committed to the University. This question had, of course, been carefully considered before the agreement was made and the parties had been advised by the most eminent counsel, ex-Secretary of State Olney and others, that the plan contemplated was perfectly in accordance with all the trusts involved. In view, however, of doubts that have been expressed, Harvard University has decided to ask the court for instructions in the matter. We have no reason to anticipate an unfavorable decision, but it would be of doubtful propriety on my part to discuss the legalities of the case while the matter is still unsettled authoritatively. I can say, however, that as time goes on, the advantages of the alliance grow more apparent. In so far as it has been tested during the present year it has worked smoothly and well. Such difficulties as loomed large to the vision of some have proved entirely imaginary. The plan will effect an enormous saving of energy and money, and if the war is teaching us anything it is enforcing the absolute necessity of conserving such resources as we have and avoiding needless waste.

I have spoken of the parallels between the conditions at Technology today and those of fifty years ago. The Institute's authorities were then in the throes of building. The Faculty today has experienced something of the birth pains of the new Technology and the President has not wholly escaped trouble and anxiety in the matter. There can, however, be no doubt as to the result. The Rogers Building has proved an ornament to Boston, and as the New Technology arises, it is plain that it will form one of the most notable educational groups of America, magnificent in its setting and worthy of that setting. The Rogers Building took rather longer to erect than had been expected. It was begun in 1864, fifty years before the New Technology. It was to have been ready for occupancy in 1865, fifty years before 1915, when it seemed at one time that the new Tech might be ready. As a matter of fact the Rogers Building was not occupied until 1866, and fifty years from that time, in 1916, we shall surely enter our new buildings unless the sky fall or something equally unexpected happen.

I am glad to say that in one important particular the parallel between the events of fifty years ago and those of today is not complete. The Rogers Building proved much more expensive than had been estimated. Happily, the cost of our construction work, so far as it has gone, is well within the figures of the Stone and Webster Engineering Corporation who are the Construction Engineers.

At the same time, the parallel holds as regards the faith in Technology necessary to carry out the venture of building and to a certain extent as regards the courage needed on the part of the responsible officers. I do not suggest that the Executive Committee today needs more than a small fraction of the courage of those that supported Rogers. His courage and theirs was sublime, for all seemed against them. Today, we have countless things in our favor, but still the fact remains that the financial responsibility is a serious one. Money comes hardly in these troublous times, and the project on which we are embarked is so extensive that it inevitably costs many millions to do it right and of course it must be done right, no other way can be thought of. We must trust in the future and go forward with full faith in Technology, determined to have an equipment as good as it is possible to get, just as Rogers was determined in the dark days of fifty years ago.

We have received great encouragement and support, but there is much yet to be done that is still unprovided for. The alumni have come forward most handsomely and perhaps under present circumstances they have done all that they can, but when the time does come, as it surely will, when you take up something new, it would seem to me well to concentrate your effort on a single project and finish it. If I had to select such a project today, I would suggest the completion of the Walker Memorial Gymnasium, for one reason, because we have already a considerable fund for that purpose and it would not require an enormous sum to clean the matter up. More important than that, however, is the fact that if we had the Walker Memorial with a gymnasium, a Memorial that contained rooms that could be used temporarily for Commons, we should have a complete outfit with everything necessary for our life at the New Technology. Dormitories would have to come later (of course, the sooner the better),



C. S. Robinson, '84
New President of the Pittsburgh Association

but having progressed without them for so long we can exercise a little patience yet. More elaborate arrangements for Commons and gymnasium could also be made later when there was less new development to tax our resources.

Ours surely is a great cause that cannot fail to prevail. It is the cause of applied science—a cause that more and more must mean commercial and industrial prosperity to the country. It is no local cause but a nation-wide one, the cause of a national institution working not for Massachusetts alone but for the country as a whole. It is the cause of the "Dear Old M. I. T.," now so clearly coming into her own and bound to grow more and more in power and influence as she steadfastly maintains her course and keeps ever in tbe lead.

Professor Wallace C. Sabine of Harvard University, representing President Lowell, was the next speaker. He said that he brought the greetings of Harvard and wished to express the great interest of the university in the Institute of Technology. The question as to whether the coöperative agreement was an advantage or disadvantage to the university had been placed far in the background. At first the matter of coöperation met with some opposition. It had gone into effect, however, with less hardship than was anticipated. The Harvard professors had looked forward to this with a feeling that there might be some loss of ideals. They looked forward to it courageously and hopefully, however, and had found the difficulties less and the pleasure greater than they had anticipated. The welcome extended to them was complete. The speaker did not doubt that there were similar feelings on the part of Technology professors. He said that there was complete confidence in the officers and Faculty of the Institute and that Harvard looked forward to contributing not only to the letter but to the spirit of the agreement. The new members of the Institute Faculty coming from Harvard were supporting it earnestly and loyally. More than that they could not do.

The next speaker was Henry M. Waite, '90, city manager of Dayton, Ohio. Mr. Waite said:

The engineering profession, for the purposes of this paper, may be divided into two classes, the designer and the practician—the theorist and the administrative. At the beginning of their careers both have practically the same fundamentals. The separation takes place when the natural tendencies of the individual are developed with opportunity. Too long employment in one class makes successful employment in the other unlikely.

In our municipal governments there is the opportunity for both of these classes of engineers today. It has not been a tempting field in the past due to its uncertainty under political control. Civil service is doing much to give it stability.

Our municipalities are growing so rapidly that the best engineering talent available is being used in planning water works, sewage systems and grade elimination. The problems are large enough to attract the engineer of ability, and he will become more interested as he appreciates that such positions have been made more stable. Still more important is the

H. A. Rapleye, '08
Secretary of the Pittsburgh Association

fact that at the present every development in municipal work makes for greater possibilities. The fact alone that cities need and must have good engineers creates the field for the creative class.

In addition, cities are realizing more and more the advantages to be derived in having engineers of the administrative class as heads of street repair, street-cleaning, parks and other departments. In this work, modern methods and proper accounting and cost data make the possi bilities for economies enormous.

A new field for the administrative class of engineers is now opening. The American people have long realized that their cities were misgoverned. Mr. Bryce, probably, was the first person to call it to our attention forcibly. He had our respect al-

ways, and when he so clearly proved what we already knew, our pride was touched. From that time we have been working constructively towards better government.

We had always assumed that our troubles were caused by the individuals who governed us. The real trouble lay in the fact that our form of government was so bad we could not get the proper kind of individual to govern us continuously. When we did get good individuals, the system was so complex that they could not procure the expected results. Many a good man has become permanently unpopular, or even worse, for trying the experiment.

Various new forms of municipal government have been, and are being, tried. The modified federal and the commission, now the commission-manager form, seems to have the greatest popularity in the American mind. The reason seems simple. The modified federal and the commission forms depend on the people being able to select by the ballot the proper man for a particular function of government.

This is not practicable. Even if it was, we do not want to have our government administered by people who owe their position to a certain constituency. It is human nature to be grateful. It is human nature to pay debts. An organization made up of debtpaid individuals is the death knell of efficiency.

The commission-manager form is the application of our successful business organizations to the running of a city. It is called the German System—It is better than the German System. The people elect a commission (Board of Directors), they select the manager, who is responsible for the administrative end and who has no political debts to pay.

I do not know today the political faith of many of the commissioners, nor of any of the men I have appointed.

The interest in this form is to ascertain whether or not it is possible to apply business methods in the running of a city. After an experience of one year we are free to say that it is possible. The next grave question is: Will the people continue to be interested in it and keep politics out of it? It is for the people to answer.

It is the commission-manager form of government that is opening up a new field for the administrative class of engineers. Not that the city manager must be an engineer, but the entire municipal field is opening up a training ground for the engineer to become the city manager.

Colleges are considering the municipal field in their curriculums. Ann Arbor has a course for city managers. Education can help, but cannot any more make a successful city manager than it can any other class. He must have municipal experience, Cities today looking for city managers are demanding municipal experience. Last month Jackson, Michigan, took for its city manager the city manager of Big Rapids, Michigan, giving him a substantial increase in salary.

It is true that this particular form of government is in its pioneer days. It has many serious problems ahead of it. You cannot proceed as rapidly as in a private or corporate business. You are hampered by old customs and red tape laws, and by an unintelligent public. You can only progress as rapidly as you can educate the people to go. They must be with you. Your publicity should have your people slightly ahead of you. You cannot be fooled by the fact that some are traveling along with you. Some are slower to grasp the benefits they are deriving than others.

Many are loath to give up the old ward representative, who always had his ear to the ground and would listen to complaints of holes in a sidewalk and promise immediate relief and repair. He was at all the weddings, funerals and christenings in his ward.

Our government is cold and scientific. The people must be educated to the fact that efficiency and economy are more valuable than the ward politician's salve.

We are pioneering. We are blazing the trail. We are hitting the high points in constructive work. We are cutting out the big trees for the first log cabin. Later the reformers (the polishers) will put on the finishing touches, clean out the stumps and cultivate the fields.

If the engineer desires to get into this opening and take advantage of this new territory, which is rightfully his, there is going to be, to my mind, a wonderfully interesting field. I think it is the opening of a new field for him, and I believe the beginning of a new era for the government of municipalities.

In introducing Mr. Horace F. Baker, president of the Harvard Club of Western Pennsylvania, Mr. Robinson alluded to his own position as the recently elected president of the Pittsburgh Technology Club and a resident of Youngstown, Ohio, and to the fact that the president of the Harvard Club of Western Pennsylvania was also a resident of the same place. He said he thought it was significant of the habit of the country at large to select its presidents from Ohio.

Mr. Baker brought with him the felicitations of the Harvard men of Western Pennsylvania to their brethren of Technology. In regard to the coöperative agreement between the Institute and Harvard University he said that the strength and position of an educational institution and the influence which it may exert in the community where it operates may be accurately measured by the force of the alumni. An institution that has the active support of alumni who will take off their coats to help it put its projects into successful operation, has enormous power at its command. The new coöperative agreement, in his opinion, depended greatly on how the alumni of these two institutions regarded it.

Mr. Henry J. Horn, '88, president of

Smoker at Pittsburgh

the M. I. T. Alumni Association, was the last speaker. He said: "It is only a year ago when at the alumni banquet in Boston the governor of Massachusetts suggested coöperation between the Institute and the Commonwealth, and within the year a valuable report has been made and adopted and last month there was formed the Massachusetts University Council, which means coöperation between all the higher institutions of learning and the state."

Last week Mr. Horn attended a meeting of the M. I. T. dormitory committee, the purpose of which is to work out the most practical way in which to house the students of Technology when it shall be moved next year to the bank of the Charles. He told how the representatives of the fraternities viewed the question, sinking selfish individual considerations for the benefit of the whole. "Imagine," he said, "representatives of twenty fraternities gathered in truly fraternal fashion to discuss the common good of a single proposition uppermost in all their minds."

The speaker referred next to the coöperation begun when Messrs. King and Hurd of the New York Association came to Boston asking the alumni to help in the association of Technology clubs. "This meeting is the third of that federation and the progress is evident when one glances about at this Pittsburgh meeting." Then Mr. Horn referred to the work of the Alumni Council in Boston which considers many matters of policy and advancement, setting its committees to work in engineering fashion viewing the subject from all points of view. Last year in the Council two hundred individuals gave of their time, energies and judgment to secure accurate conclusions for Technology. "Organized coöperation of our kind," said Mr. Horn in conclusion, "stands for increased efficiency, production of the highest type, reduction in waste and aims to be a real help not only for governments but for all the countless enterprises and industries worthy of intelligent attention. Nearly every kind of organization save that such as ours has wielded its influence in business and in government in this country. Think well, then, men of Technology what may be