

Summer 6-1910

Volume 19 - Issue 9 - June, 1910

Rose Technic Staff

Rose-Hulman Institute of Technology

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Vol. XIX

JUNE, 1910

No. 9

THE ROSE TECHNIC

Rose Polytechnic Institute

FOUNDED BY THE LATE CHAUNCEY ROSE,
AT TERRE HAUTE, INDIANA

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VOL. XIX

TERRE HAUTE, IND., JUNE, 1910

No. 9

THE TECHNIC

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Issued Monthly at the Rose Polytechnic Institute

Entered at the Post-Office, Terre Haute, Indiana, as second-class mail matter.

"At last! THE TECHNIC is out."

It may be that THE TECHNIC readers expressed themselves thusly on receiving the June issue, but it more especially refers to the statement of the new staff. Although this issue appears with the names of the old staff on this page, it has been the pleasant task of the new staff to take up the reins of office and be responsible for this number. In this connection we wish to doubly thank the late staff: for the honor which they have conferred upon us in making us

their successors, and for the assistance they have given us.

The custom has been that in the June number the new staff always announces its plans for the coming year, new projects which they have in mind, and great changes which will be brought about in the future issue; in short, the reader finds out in this issue what the policies of the new staff are. It is our misfortune, then, that we must disappoint our readers. Ideas? As yet we have none; but we hope to become the proud possessors of some of the same before the next issue in October.

* * * *

In university and college circles each school year has its round of athletics and social diversions. At Rose, considering the size of the school and the amount of time that can be given to such things, athletics have been raised to a very high plane, and, due in no little respect to the men who have extended their best efforts in this direction, this position has been maintained. But, as has often been remarked before, activities of a social nature have not been indulged in to a very great extent. The social season at Rose may be said to consist entirely of the Y. M. C. A. Reception at the beginning of school and the Senior Reception at commencement time. It was with this state of affairs in mind that the Junior Class decided to give a "Junior Reception and Prom" to the Senior Class. As a precedent, this attempt of the Class of 1911 to liven up the year's routine

may well pave the way for a greater and a more varied social time for the student at Rose.

The Junior Reception and Prom was held in the gymnasium May 25. The gym was decorated in the school colors and presented a very pleasing appearance. Suspended from the center was the name ROSE illuminated by many incandescent lights. From this rose and white streamers extended to the walls and down, forming, in the school colors, a canopy over the entire floor. The Stark-Offutt Orchestra, which furnished the music for the dancing, was inclosed in one corner behind a grouping of palms and ferns.

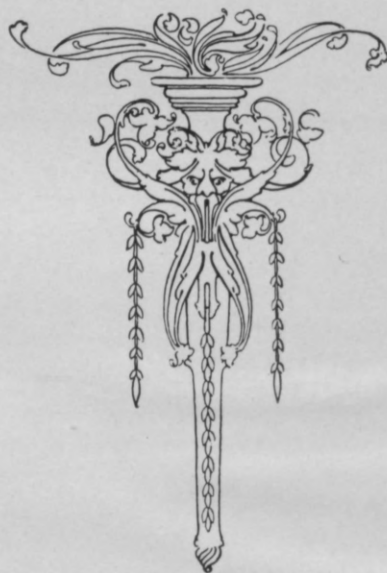
The earlier part of the evening was taken up with the reception. During the reception the members of the Junior Class entertained their guests with parodies of songs on the members of the faculty. These numbers were well received, especially by the faculty. The remainder of the evening was spent in dancing, and, all in all, a very pleasant time was enjoyed. Light refresh-

ments and punch were served throughout the evening.

* * * *

After months of the hardest kind of work on the part of those in charge, the subscribers were finally allowed a glimpse of the 1911 "Modulus." The glimpse, to say the least, was encouraging, and led the way for a more minute inspection of the book's contents. The book has invited a great amount of favorable comment, both because of its general appearance and the worded material. The Rose Alumni Association has especially commented on the latter feature.

The lion's share of the credit must be given to "Young Doc" Mees and "Heinie" Ker, as both of them practically devoted the entire year to it. In placing praise where praise is due, however, the work of Wilbur Shook as artist must not be overlooked, for it is largely due to his creations that the 1911 "Modulus" bids fair to establish a record for work along artistic lines.



COMMENCEMENT ADDRESS

DEAN FRANK O. MARVIN,
School of Engineering, University of Kansas.

I am glad to be here to-day for several reasons. Firstly, because engineering is the work I am interested in, and, secondly, because of long acquaintance with members of the Rose faculty. In writing me concerning my address, Dr. C. L. Mees gave me wide liberty in my choice of subjects. I decided it would be nothing formal, and that I should speak to the Senior Class about what confronts them when going out into the world.

Seniors or graduates, first let me call your attention to the usefulness of intensiveness and the cultivation of that characteristic. You are just starting in the world, and your education is not finished. Retain the study habit for one thing, and concentrate all of your intellectual powers, thus assisting in reaching the proper solution of all problems that you will attempt. Have exactness in your nature, by which you may make accurate observations, enabling you to make correct conclusions. Be able to discriminate between good and bad in each phase of life, and find your attitudes on every proposition, as no one can tell you.

There is an old saying that "Opportunity knocks on man's door but once." I, for one, do not believe in this, and I wish to instill in your minds the idea not to jump at every prospect that may present itself to you, but choose the one upon which you wish to specialize. I know a man who graduated from the University of Kansas some twenty years ago, and who took a position with

a railroad. He continued in this field for about four years, and he then decided it was not what he wished. He left it and took up civil engineering, and he is now one of the foremost in San Francisco, in a position that he stoops to no one, and people come to him for advice and accept upon his terms. That is an example of finding your line and pursuing it.

There is one danger, narrowness, which warps the judgment and prevents a proper outlook. Some specialties are of narrow range, and those engaged in them must guard against their natural tendency. Then, too, it must be borne in mind that the usefulness of some specialties, through the rapid changes in science, are lost.

I want, also, to call your attention to the necessity of extensive as well as intensive training. The reading of books, keeping up with periodical literature and being always alert are necessary. The cultivation of imagination is a point frequently overlooked or even scorned. The man who sees the artistic side of life has an advantage over one who does not. For that reason look at good pictures, hear good music; it is important in the creative side of an engineer's life.

Another feature, very important, is the art of being socially in good standing with the people. The engineer meets all kinds of people, as he may be on the frontier to-day with the construction gang, and in New York to-morrow looking after business that requires a social understand-

ing. I have known men who were technically keen in the knowledge of their profession, but could not accomplish anything because of non-impressions. You must be able to impress and make yourself felt. Mix with the world, particularly the better class, as every man is benefited by his associations.

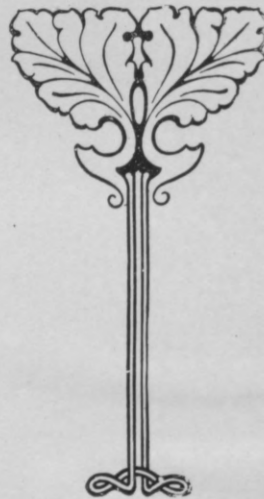
Perhaps the largest capital the young, inexperienced man has is his character. It is far greater, or should be, than his practical knowledge. You must be steady, frank, honest, sincere, and with that have stability and cleanliness of heart and mind. All the men whom I have known to make a great success have possessed these qualities, and had the persistence to hang on to their hope and object. The people who rise to high positions are those who stick, who do not leave one field for a paltry increase in salary in another.

Then I think every engineer should be an

optimist. The man with a grouch always loses in the end. The engineer should be a happy fellow, working at his chosen labor.

There is no school in the United States that can turn out an engineer. Nobody can answer questions of engineering till after he has had experience, for judgment, the thing he receives his salary for, can only come that way. It comes by slow growth, and too rapid advancement often prevents this. A man ought not to do anything which curtails the usefulness of his best years, his maturity. Salary is secondary.

Engineers should rank high with the world's best. They are now reckoned members of a professionally-trained class, and are being looked to as the best type of citizens. But you must actually earn your recognition, not receive it. Then watch for your opportunities, work steadily toward a mark set high, and, above all, keep your soul clean.





CHEMISTRY AND TECHNICAL TRAINING

ALUMNI ADDRESS, BY J. J. KESSLER.

There are a great many of the graduates of Rose who have never gotten over the habit of dating their year's work from commencement time. At just such a time as this we began what has been variously called a battle, a career, an occupation; but I do not think there is any word quite so dignified and simple as the word work.

At that time, as it is to-day for the Class of 1910, it was, and is, work in prospect, work ahead of us, work eager to be done, and we eager to start to work. Now, for some of us, there is mixed with the prospect, because there is never an end to prospect, something of retrospect, something of review, and with the review again new prospect, a new incentive for the coming year.

Many an Alumnus of Rose comes back at this time not only to refresh his memory of old associations, but to take on new purpose again. The very atmosphere of commencement time is peculiarly adapted to the furnishing of such refreshment.

It has become an established custom at these

exercises for the Alumni speaker to review the prospects for work in some field of engineering that he has been engaged in or identified with. Following this custom, I shall refer briefly to some phases of chemical work that seem to me to be worthy of our consideration.

Chemistry is often thought of as a specialty, and so it is. But it is also a generality, and one that enters into the most intimate relationships, both with our physical and industrial lives. Not only is Chemistry a science, one that is making progress with definite and positive results, but it is also an art, a useful art, serving the material needs of mankind. It is a profession numbering its workers by the tens of thousands, and it is a business, owning vast capital, selling its merchandise wherever commerce is held between men. But one does not need to pick from among the chimneys of industry those that have to do with Chemistry. Every one of them is an illustration of the great use that is made of chemical phenomena in the world of industry.

I should like to recall some of the things that

Chemistry is not, obviously is not, and we must not get them confused. Chemistry is not " H_2O ," as it has been defined, nor is it the study of atoms. We may have a working familiarity with the symbols used to facilitate chemical writing, and we may have read about some of the theories developed by chemical philosophers; but these are, in the one case, the very outer garment of Chemistry, and, in the other case, the intellectual life of Chemistry. Both of these are of necessity and have played the leading part in the development of the science, and, following it, the art.

It is of the very greatest interest to note the continually broader treatment that is given to chemical teaching. This broadening out has only been keeping pace with the wider recognition of the great service that this kind of training can be to every engineering student, and the great variety of new fields in which the trained chemist can find work.

The history of the useful arts shows that it is the newest of them that depend most upon technically-trained men for their rank and file. In the great field of electrical manufacture you will find the college-trained man everywhere. I mean by this that he is found not only in the engineering departments, but also in the power plant, in the shops, the testing departments, the purchasing and sales offices, in the legal departments, and the sales department.

Technical schools were ready to offer training in this branch right from the beginning of the rapid growth of the industry. In this case there was no tradition to learn from, and no literature. Practice changed so rapidly that each year showed the most marked changes. The college has been, therefore, not only the best way to learn this business, but also the quickest way. In electrical engineering there is no controversy between the practical man and the college man, because the college-trained man *is that man*. There has been scarcely any other. No one questions the propriety and the necessity of the young man who seeks to labor in the electrical field, in whatever branch, learning first the great prin-

ciples of science which have produced it, and which lie behind it. No one denies that it is the intimate relationship between electrical science and electrical art, and the training of electrical men on the basis of this relationship, that has made possible the enormous development of this industry in such a relatively few years. The certainty and definiteness of this advance have been made possible by the definiteness of the training of the different kinds of workers and their mutual sympathy and understanding of one another. They are both its engineers and its captains of industry. It is the difference between the rules of thumb and the rules of science.

Quite different has been the story of Chemistry. It began with the race. The changes produced in matter by heat and by contact with other substances have been made to be of practical use from the earliest times, and are recorded in the earliest literatures. Men possessed some skill in the making of wine and vinegar, in the extraction of some of the metals from their ores, long before Abraham went up into the land of Canaan to look for greater natural resources.

Chemistry as an art, therefore, existed long before the time of technical education, or even of the science of Chemistry. It has been natural, therefore, that the first applications of this training have been to those places where it could effect the striking and the special result, that could not be effected in any other way. We can recall, as a single illustration, that the first application of chemical training to the steel industry came by the introduction of analytical laboratories into steel plants, with the chemist confined within the four walls of the laboratory, and, finally, the thorough chemical training of the men more directly responsible for the making of the steel.

The relation that chemical training in technical schools bears to chemical industry may be illustrated by a reference to an art where technical education is only beginning to be introduced. Such an instance is that of the textile trades. An experience in cloth making is not generally considered to require a foundation such

as is given in a school like Rose. But such a foundation is already being made by many young men in schools which have been founded expressly for this purpose, and which will play an increasingly greater influence in the generations to come. We who live in the Middle West, away from the centers of this great industry, do not have much opportunity to watch the growth of the textile school. These schools will be found, however, in the Middle West in the years to come, just as surely as the industry itself will gain a greater and greater foothold in the Middle West. In these schools are taught the principles of Physics and Chemistry, much as they are taught at Rose. The applications of these principles are then shown to the art of cloth manufacture. Instead of the lathe, and the drill press, and the generator, the shops are equipped with the loom and the picking machine, the cards and spinning machines. Cloth design takes the place of machine design. Cotton, wool and silk are raw materials whose strengths and other properties are studied. The same intimate relationship of Chemistry to this art is apparent also. The dyeing of cloth is almost as much of a chemical process as the making of the dyes themselves.

Here is seen, indeed, from time to time, that antagonism between the so-called college man and the so-called practical man. The superintendent, who commenced his career by sorting wool, fed the picker for a year, and slowly worked his way up through the carding and spinning rooms, became a loom fixer for a time, then boss weaver, then designer, then superintendent of the factory, may not take kindly to his young assistant, who insists on wearing a collar while at work, and who wants to install a card index to take the place of the records that the older man may have kept on the backs of used envelopes in order to save the paper. They must get together and learn from the other. It has not been such a difficult problem where it has been approached in the proper spirit. However, the four years of extra schooling that the one man has received has fully demonstrated by its results, and in spite of its

critics, and in spite of the fact that it takes four of the best years of a young man's life, that it is worth while.

In an increasing number of industries it is becoming necessary, through fixed custom, to start in this way, not only to become what are called specialists, but also in order to do what are considered the more general tasks, the buying and the selling of merchandise, the manufacture of it, and the distribution of it. Men are receiving training in Chemistry, therefore, not only in those cases where their life's work will be more specially chemical, but also in those greater number of cases where there are some chemical principles connected with their work.

It is difficult to define the term Chemical Engineer. I shall never forget the puzzled look that came over the face of a young lady, an old high school friend, who asked me, just after graduating from Rose, what I was, and I told her that I had been studying to become a Chemical Engineer.

"What," said she, "are you going to run a chemical engine?"

But, after all, this definition seems a first-rate one if one thinks of a chemical engine not only as a machine for pumping carbonated water on a fire, but as any mechanism where chemical energy is involved, and where it is handled to some useful purpose. A chemical engineer would be one, therefore, who has had the experience necessary to run a chemical engine and the confidence of his colleagues. It is the very broadness of the field that makes it difficult to define the term. The training and the point of view are of greater importance than the name. Names are convenient things to enable people to classify us. The kind of work one can do and the willingness to do it are, after all, the important thing.

We have all heard people tell of some young man who, they said, would have made a first-class salesman, who was spoiled by sending him to college. That the college should be anything than a distinct advantage to the equipment of any salesman, especially such a school as Rose, is pre-

posterous. Rose does not teach the trick of selling goods, as some of selling practice is called. She does teach, however, the finest trick, if I may call it such, of all, of salesmanship, and this is the knowledge of the properties of materials, and what may be expected of them.

Every year it is becoming more essential that a salesman, in every line of business, should have his head grasp more strongly developed than his hand grasp. In every field of chemical manufacture the opportunities for technically-trained salesmen are increasing. The old way was to give the salesman as little information as possible, for fear he would learn too much about the business. The newer and better way is to give him every facility to represent his product intelligently and technically to his prospective buyer. Buyers of chemical products have been going to school as part of their education, and they are likely to insist upon getting behind the argument and back to the facts.

Chemical training, therefore, in technical schools is being recognized as the proper foundation not only for analytical chemists, but also for engineers, and manufacturers, and business men engaged in all sorts of trade involving chemical products. It is well for the student in Chemistry to bear this in mind, as well as those students who have not yet chosen their course of study. White aprons and test tubes have not appealed to many, who feel a greater degree of manly dignity go with a pair of blue overalls. There are just as many opportunities for overalls in the different chemical arts as there are in any other, and the technically-trained man will find many pairs waiting for him in many places where he may look for them.

It has been a favorite custom among chemists to point with pride to the service of this art to humanity by illustrating such special matters as the replacement of natural indigo with an artificial chemical product; by the making of many colors out of substances found in coal tar; by the manufacture of nice-smelling perfumes, and the like. But the service of Chemistry goes deeper

than this and is much broader. The manufacture of fertilizers is of more importance than the making of perfumes. He who will remove the odor from the garbage of a great city and turn it into useful food for the soil will do more for humanity than the chemist who made a chemical that smells like violets.

Soap and steel are two of the products of chemical reaction. One holds its head high; it gives its support to great buildings, to mighty bridges, and stretches across the continent from coast to coast. The other is humble, its work is menial; but who can say that it is the less important or that it is not a great industry? Many pairs of overalls are waiting for the chemical engineers of the future near the soap kettles. Paint factories, varnish factories, packing houses, oil refineries, smelters, all have several pairs of overalls waiting for every white apron.

The engineering problems of the future will consist, in larger degree, of chemical engineering problems. We have been doing the easy thing with our raw materials. The ground has been covered with them or filled with them. All that has been necessary to do was to strip it, or else dig them up and ship them away, or else effect the first and simplest transformations. But resources decrease while human hands increase, and already the word conservation is heard on all sides. Conserving means, however, not only to keep untouched, but also to effect the most valuable transformations in a given amount of material. The idea now is not to decrease waste, but to increase value.

You will recall the story of the eccentric artist, Whistler, who was asked by an admirer to name the ingredient that he used to mix with his colors in order to obtain his striking effects. The answer was, "Brains, madam."

This is part of the problem of conservation, to mix a larger amount of brains with our fuel, and metals, and crops.

What the chemist has done already to assist in this result is a matter of record, and new possibilities are unfolding themselves every day.

English coal tar, mixed with German brains, is an historic example of the relative value that is attached to these two kinds of ingredients. We do not say that England has a large market for her coal tar, but that German chemists lead the world in the quality and value of their work.

I have tried to sketch briefly the growing outlook for chemically-trained men, and also the wider appreciation of the value of technical training for many kinds of occupations. There are still to be heard a critic or two who insist that the college unfits a man for life, because it takes him away from the outside world for too long a time. The only possible basis for this criticism is, that where the home support is continued for too long a time, that in some cases it gets to be considered as a natural right, and economic independence is not regarded as one of the first of the virtues. I believe that very little of this problem has ever come up in the history of Rose. It is not merely a coincidence that some of the most successful of her students should have at one time sold newspapers upon the streets of Terre Haute. It was their good fortune to appreciate this lesson of self-support quite early, and to learn its virtues in a direct and practical way.

Where a student considers his opportunity and privilege of remaining a student until he is well into his twenties as a loan, to be repaid with interest to his own generation, there is no question about the failure of college education.

When he does not so consider it, but rather as a chance to have a good time, or as a kind of graft, the question looms large for that student in the future. But surely, even in this case, the fault is not with the school, but with the home life and example that has preceded it.

As with individuals, so it is with institutions. It has been poverty and struggle that has developed the Rose. In our case, however, there has been only one kind of poverty. We have been more than compensated for our lack of material equipment by the loyalty and the devotion of our teachers.

The time is soon at hand, surely, when a larger support will be available to this institution, which has built so well and so firmly upon the foundation made possible by one big heart, and which has meant so much, and will mean so much, to the young men of Terre Haute and of this country.

ALUMNI ASSOCIATION.

Report of the Twenty-fourth Annual Business Session, Thursday, June 9, 1910.

The meeting was called to order at 3 p. m., June 9, 1910, in the free-hand drawing room, with President O. C. Mewhinney, '01, presiding.

The minutes of the previous meeting were read and approved. The following report was submitted by the Treasurer and approved:

ALUMNI FUND.

Receipts—

Balance on hand June 10, 1909.....	\$333 37
Dues for 1908-09 since last report.....	\$57 00
Dues for 1909-10.....	197 00
Special copies Gray "Appreciation"....	75— 254 75

Disbursements—

Election Committee, for 1910.....	\$49 85
Executive Committee, for 1910.....	33 50— \$83 35
Secretary—	
Annual presents to Mesdames Adams and Burton and Mr. McGibney....	\$10 50
Printing, postage, clerk, etc.....	99 80— 110 30

Total disbursements from Alumni Fund....\$193 65

Balance on hand in Alumni Fund.....\$394 47

BANQUET FUND.

Receipts—

Balance on hand June, 1909.....	\$26 50
Cash and credit at banquet.....	227 35—\$253 85

Disbursements—

Hotel	\$192 53
Cigars, wines and tips.....	16 75
Menus	23 00
Music	10 00— 242 28

Balance on hand in Banquet Fund.....\$11 57

LOAN FUND.

Receipts—

Balance on hand June, 1909.....\$285 25
 Interest to May 1, 1910..... 19 03—\$304 28

Disbursements—

Loan No. 3.....\$150 00— 150 00

Balance on hand in Loan Fund.....\$154 28

TECHNIC SUBSCRIPTIONS.

Receipts and disbursements..... \$88 00

GRAY LIBRARY FUND.

Balance on hand June, 1909..... \$28 00
 Subscriptions to date..... 254 00—\$282 00

FUNDS ON HAND.

In Merchants' National Bank.....\$132 24
 Indiana Trust Company..... 649 28
 Cash 60 80

Total on hand.....\$842 32

The Advisory Committee, through its chairman, Mr. Schwartz, '01, reported as follows:

To the Rose Alumni Association:

Your Advisory Committee begs to report as follows: Shortly after the last commencement, the chairman of the committee removed to Mexico, and hence found it impossible to serve the association further. In January he resigned from the committee, the chairmanship thereupon devolving on the Indianapolis member. President Mewhinney appointed Mr. R. N. Miller, '01, to fill the unexpired portion of Mr. Burk's term.

The committee considered a financial plan, submitted by Mr. Wales, for raising an endowment from the Alumni. The bequest of Miss Heminway has, however, so far altered the outlook as to make it undesirable to proceed further with this plan at present. It is quite probable that the Alumni may be asked for assistance along this line, but other plans, more in harmony with those of the Institute authorities, are now under consideration.

The committee has no matters to suggest for action by the association. The suggestions made last year to the faculty have been acted on most readily. The Alumni Lecture Course has been begun, and we are told is highly appreciated. Alumni have been very generous in giving their aid to this movement, and will, we hope, continue their interest.

The formation of branches of the A. I. E. E. and possibly of the A. S. M. E. is being undertaken. Membership in the leading engineering societies has been

sought and secured by many members of the faculty who were not previously active along this line.

The Institute has not yet secured the services of a publicity man. A member of the faculty will, however, take up this duty in the near future.

President Mewhinney has reappointed H. A. Schwartz, '01, as the Indianapolis member of the committee, his term having expired. The committee has elected Mr. Schwartz as its chairman for the ensuing year. The committee asks your active aid in its work for next year, along the line of suggestions for the welfare of the Institute or of the Alumni.

Any member of the committee will welcome such suggestions and present them to the committee for investigation.

Respectfully submitted,

ADVISORY COMMITTEE.

HARRY A. SCHWARTZ, *Acting Chairman.*

The Secretary reported, on behalf of the Loan Fund Committee, that but one application for loan had been approved during the past year, and that there was a balance on hand in the Loan Fund of \$154.28; \$135 additional is available to this fund from the original subscribers whenever calls for loans have become sufficient to require the same. Several applications for loans were received and rejected because it was found that, in those cases, the applicant had other sources from which the desired amount could be raised. The Loan Fund Committee has adopted the policy of refusing loans except in those cases where the student is unable to obtain the desired amount from other sources because of lack of security or friends having available funds. The Secretary reported that the committee had refrained from urging further subscriptions to this fund because of the need of raising money for the purchase of Dr. Gray's library during the past year, and suggested that the instructions given last year be carried forward into this year. This precipitated a discussion as to the character which this fund should assume and the method of its management. Mr. Peddle called attention to the fact that the P. Ferman Nippert Fund of \$20,000, recently established by the bequest of the late Miss Heminway, might possibly obviate the need of the further maintenance of the Alumni

Loan Fund. The general sentiment seemed to be, however, that, at least for the present, this fund should be maintained.

Mr. Layman, seconded by Mr. Johonnott, moved that a committee of two be appointed by the Chair to thoroughly consider the Loan Fund matter in its various phases, and report at the next annual meeting with recommendations relative to the character and management of the fund. The motion was carried, and the Chair appointed Messrs. Layman and Royse as the committee.

On motion of Mr. Hammel, seconded by Mr. Kadel, the Secretary was instructed to send a cablegram greeting to Mr. W. C. Ball in Europe. In accordance with this instruction the Secretary sent the following cablegram to Mr. Ball:

"Rose Alumni send greetings, wishing you much pleasure."

On motion of Mr. Schwartz, seconded by Mr. W. D. Wiley, the Association heartily commended the spirit with which the Class of 1911 had, in publishing the recently-issued "Modulus," carried out the wishes of the Association relative to "Faculty Hits," as expressed in a resolution passed at the meeting in June, 1908.

On motion of Mr. W. D. Wiley, seconded by Mr. Schwartz, the Secretary was instructed to express to Mrs. Burton, the Registrar, Mrs. Adams, the Director of the Glee Club, and Mr. McGibney, Director of the Orchestra, the appreciation of the Association for their services, and to accompany the same with a suitable token of remembrance.

On motion of Mr. Carl Wischmeyer, seconded by Mr. Schwartz, the Secretary was instructed to invite Mr. McGibney to attend the future banquets of the Association so long as he continues as conductor of the orchestra.

On motion of Mr. W. D. Wiley, seconded by Mr. McMeans, the Association, by a rising vote, expressed appreciation and thanks to Mr. J. J. Kessler for his admirable address. Messrs. Foltz, Wilkin and Kessler spoke of the beautiful

character of the work of Mr. Layman in the production of the "Appreciation" of Dr. Thomas Gray, and the retiring President was instructed to arrange, if possible, with the newspapers of Terre Haute to publish a facsimile.

The following nominations for President and Vice-President of the Association, to be voted on next spring, were made:

Omar C. Mewhinney, '01.
J. J. Kessler, Jr., '97.
O. E. McMeans, '96.
John T. Wilkin, '86.
Arthur C. Eastwood, '98.

On motion of Mr. Foltz, seconded by Mr. Kessler, the Secretary was instructed to consult with the Board of Managers of the Institute with relation to a change in the method of election of Alumni representatives, and to report at the next annual meeting. There was a considerable sentiment that nominations should be called for, and notices of nomination sent out from fifteen to thirty days sooner than the present provisions permit, and that some means should be devised by which the Alumni could be instructed as to available candidates.

Mr. Layman presented the following resolution:

"That the officers and Executive Committee of the Association, prior to the request for nominations for Alumni representatives next spring, and after consultation with the receptive candidates, present to the Election Committee the names of three prospective candidates for Alumni representative, and that the Election Committee, in sending out this request for nominations next spring, include such names as a suggestion to the Alumni."

After some discussion the motion was carried.

Messrs. Carl Wischmeyer, Herbert Foltz and John B. Peddle were nominated for the Executive Committee for the coming year, whereupon a motion that nominations be closed and the Secretary be instructed to cast the ballot of the Association was put and carried.

On motion of Mr. Reed, seconded by Mr.

Kadel, the Class of 1910 was elected to membership in the Association.

The roll call was as follows:

Class of '86—Foltz, Scott, Wilkin.

Class of '88—Peddle.

Class of '89—Wiley.

Class of '91—McCormick, Mewhinney.

Class of '92—Layman.

Class of '93—Hood, Johannesen, Johonnott.

Class of '96—McMeans.

Class of '97—Arn, Kessler, Newbold.

Class of '98—Ford.

Class of '01—Hammel, King, Lyon, Schwartz.

Class of '03—Blair, Brosius, Schefferly.

Class of '05—Goodman, Hanley, Kadel, Reed, Reynolds, Snider.

Class of '06—Wischmeyer, C., Wischmeyer, H. W., Worthington.

Class of '07—Hall, Plew, Routledge, Shickel, J. B., Whitecotton.

Class of '09—Bangert, Brennen, Frisz, Maddex.

Class of '10—Bareuther, Bercaw, Bowers, Elliott, Frisz, Geiger, Hadley, Madison, Piper, Rush, Smith, Standau, Sutliff, Washburn.

Whereupon, on motion of Mr. Kessler, seconded by Mr. Goodman, the meeting adjourned.

ALUMNI BANQUET.

The twenty-fourth annual banquet was held at the Filbeck House, at 8:30 p. m., June 9, 1910. The President, Mr. Mewhinney, acted as toastmaster, and the following were guests of the Association: Dr. F. O. Marvin, Dean of the Engineering Schools, State University of Kansas; Charles Minshall and G. M. Crane, of the Board of Managers; President Mees, and Professors Hathaway, White and Faurot.

The Alumni present were as follows:

Class of '86—Foltz, Wilkin, Scott.

Class of '88—Peddle.

Class of '89—Roberts, Wiley.

Class of '91—Mewhinney.

Class of '92—Layman.

Class of '93—Johonnott, Johannesen, Hood.

Class of '94—Royse, Hildreth.

Class of '95—Fuller.

Class of '96—McMeans.

Class of '97—Arn, Newbold, Kessler.

Class of '98—Ford.

Class of '99—Edwards.

Class of '01—Hammel, Lyon, King.

Class of '03—Blair, Brosius, Cushman, Fischer, Schefferly.

Class of '05—Goodman, Hanley, Kadel, Pfeif, Reed, Reynolds, Snider.

Class of '06—Wischmeyer, H. W., Wischmeyer, C., Worthington.

Class of '07—Hall, Miner, Plew, Routledge, Whitecotton.

Class of '08—Fischer, Heidenger.

Class of '09—Bangert, Brennen, Hummel, Maddex, Read.

Class of '10—Bareuther, Bercaw, Bowers, Butler, Davidson, Edwards, Elliott, Frisz, Geiger, Hadley, Hay, Kuersteiner, Madison, Piper, Poin Dexter, Rush, Shepard, Smith, Standau, Stokes, Struck, Sutliff, Washburn, Webster.

The menu and toast list, the product of the ever-ready and genial Foltz, were as follows:

Consomme en Cups.

Planked White Fish. Potatoes Dauphine.

Filet of Beef Larded with Mushrooms.

Tea Biscuits. Asparagus in Cream.

Cherry Ice.

Supreme of Chicken aux Macedoine.

Finger Rolls. Potatoes au Gratin.

Fruit Salad, Cream Dressing.

Ice Cream with Strawberries. Assorted Cakes.

Blue Ribbon Cheese.

Coffee.

Toastmaster, OMAR C. MEWHINNEY.

"He rais'd a sigh so piteous and profound,
as he had been loosed out of Hell to speak of
horrors."

"Keep On a Keepin' On."

"'Tis a custom more honored in the breach
than in the observance." George M. Crane.

"Adversity."

"How weary, stale, flat, and unprofitable
seem to me the uses of adversity."

Albert A. Faurot.

"Prosperity."

"I've allus noticed great success
Is mixed with trouble, more or less;
And it's the man who does the best
That gets more kicks than all the rest."

Roger M. Newbold.

"The Infant Class."

"I could a tale unfold, whose lightest word
would make thine each particular hair stand on
end, like the quills of the fretted porcupine."

James A. Shepard.

"Reminiscences."

"This life is just one damn thing after an-
other."

W. Ellis Ford.

After the formal toasts the toastmaster called upon a considerable number, giving special attention to various members of the "Infant Class."

Dr. Marvin compared the salaries of successful graduates of technical schools with the salaries of the professors who had given to those same men their foundation of knowledge, and he called attention to the inadequate pay of the professors, and said that it was a part of loyalty for the Alumni to assist in changing public opinion to such an extent as to result in an increase of salaries. He also urged upon us the necessity of

being fair to the extent of expressing our appreciation to our former professors from time to time as our own development and advancement renewed attention to the instruction which we had received at their hands.

ALUMNI NOTES.

John F. Robbins, '08, and "Hi" Cannon, '08, have been transferred from the Bullock Works to the West Allis Works of the Allis-Chalmers Company.

* * *

Following his resignation from the Maintenance of Way Department, Logansport division of the Vandalia, F. N. Hatch, '06, has taken a position as an assistant engineer in the office of Westinghouse, Church, Kerr & Co., engineers and contractors, of New York City.

* * *

I. R. Ralston, '09, was married May 14, 1910, to Miss Eva Johnson, of Pittsburg. They intend to reside in Pittsburg.

* * *

E. B. Abbett, ex-'10, came up from Louisville to attend the commencement exercises. He is connected with the Louisville Sewer Commission.





ADDRESS TO THE CLASS OF 1910

BY GEORGE M. CRANE,
Secretary Board of Managers.

The founder of the Rose Polytechnic Institute was a serious man—strong willed, resolute, and persistent in all his purposes. His whole life was earnestly devoted to getting results. At the end of his life he undertook in the same resolute manner, and deliberately, to dispose of the fortune he had accumulated by his years of toil, and to so dispose of it that it might accomplish the greatest good. He placed large funds with the managers of this institution with the expectation that every dollar of it should be expended to that end. It is but proper, therefore, that the management shall expect and require a high degree of efficiency of the students who are the beneficiaries of the philanthropic founder. And this institution has from its beginning demanded the highest possible efficiency of its student body. The young man who is not capable of doing the required work, as well as the one who will not do the work, must step aside. His place must be given to the young man who can and will. This established rule demands that each student shall

conscientiously make the necessary effort, and shall possess the necessary ability, and shall attend not only strictly, but successfully to the business that is placed before him. Does this rule seem a harsh one? It is the very rule that is consistently and vigorously applied by the business world, which you are entering to-day. An institution of learning is judged by the success of its graduates in the lines for which they have been trained. "By their fruits ye shall know them." This policy of strict requirement, of persistence upon conscientious effort, as well as marked ability on the part of each student, has long since borne its fruit. The strongest recommendation that this institution has to-day is the remarkable success that has attended the noble body of men who compose the Rose Alumni.

On behalf of the Board of Managers, I congratulate each of you upon the completion of the prescribed course of study. All the more honor to you, because you have lived up to these strict requirements. It is an honor to have successfully

withstood the rigid tests that have been applied to your efforts. It is an honor to become, as you do to-day, members of the Rose Polytechnic Alumni. The splendid triumph of the men of Rose in the industrial world, in a sense, becomes your inheritance, and the reputation that these men have established for themselves and for Rose will assist you in obtaining fruitful fields for your labor. You may well be proud of the years of training you have had under the honored, faithful and conscientious members of this faculty. Their standing in the scientific and educational world will be an increasing inspiration to you as the years go by.

This day is truly a commencement day for you. This day is the commencement of your chosen life work. It marks your entrance into your professional careers. Splendid opportunities lie before the young man who is educated in technical science.

Schools for teaching the principles of physical science and the practical application of the industrial arts are modern institutions. The Rose Polytechnic was a pioneer of its kind in the West, and among the first of its kind in the world. Its founder could not possibly have foreseen the rapidity with which such schools have increased in number, or the increasing calls for the men of their training. The demand of to-day is for men who understand the laws governing the forces of nature, and who are best able to subdue these forces, and lead and direct them in doing the will of men.

We are told that in olden times the wise philosophers spent years in trying to determine how many spirits could dance on the fine point of a needle, or whether it would be possible for a spirit to be successively at different points without passing through the intervening space. We care little for spirits in these days. We are concerned with material things—things that are tangible and capable of being understood. When a plague comes, we no longer call for a week of fasting, and pray to the supernatural to ward off the disaster. We have learned that the super-

natural does not help us, at least, until we have begun to help ourselves. We call upon the scientist to search out for us the natural causes of the plague, and then we send for the graduates of technical schools to drain the swamps, to devise for us better and more sanitary sewer systems, and means to destroy flies, mosquitoes, and other germ-carrying pests.

The field for the labor of the technical man is continually expanding. The first bicycle was a crude, unwieldy machine, fit only as a plaything or as a curiosity. It was technical science that brought it to its present useful and beautiful perfection. A short time ago we all knew that man could not fly, but a man did fly, and immediately thousands of trained and practical minds were set to the problem of removing the imperfections of the flying machine, so that it might, if possible, subserve the necessities and pleasures of mankind. And so it is that every new invention that comes from the mind of the inventive genius brings on a myriad of problems that must be solved and of details that must be worked out by the man of technical science before the machine or device becomes of real value to mankind. The manufacturing world, the transportation world, the agricultural world, in fact, the whole industrial world gives glad welcome to the man of practical technical training who can help to displace old methods with something more prolific of results.

You, young man, step into the industrial world equipped with a special training for the solution of your share of these problems. No one understands better than yourselves that you are not to-day engineers in the truest sense of the word. But you have the needed training, that which continued application and the mature judgment that comes with experience ripens into the engineer.

The Rose Polytechnic Institute rightfully demands of you—each of you—success. Your duty to yourselves, to your families and friends, demands that you shall make the best of the opportunities that come to you. Your duty to your

fellows in the Rose Alumni demands that you shall not tarnish, but, if possible, shall brighten its already brilliant record. Your duty to the memory of Chauncey Rose demands that that part of his beneficence that has come to you shall not have fallen on fruitless soil. We believe you will not fail in the battles of skill and ingenuity that are before you.

It is, therefore, a pleasant duty, gentlemen, to award you, on behalf of the faculty and the Board of Managers, diplomas under the seal of the Institute, certifying to our confidence in you.

THE COMMENCEMENT.

The twenty-sixth annual commencement of the Rose Polytechnic Institute was held Thursday morning, June 9, 1910. The exercises took place in the Centenary Methodist Episcopal Church, and consisted of appropriate addresses to the graduating class and the presentation of diplomas.

Following the overture by the Rose Poly orchestra, a prayer was offered by the Rev. Dr. Richmond. Dr. Mees then introduced the Alumni speaker, J. J. Kessler, Jr., '97. Mr. Kessler, who is a consulting engineer in St. Louis, spoke on the value of technical training, dwelling especially on features of chemical engineering. Mr. Kessler's address will be found in full in the Alumni columns.

This was followed by the commencement address by Dr. Frank O. Marvin, Dean of the School of Engineering, University of Kansas. Dean Marvin dealt at length with the possibilities and future of the graduates, and he pointed out those things which he considered necessary that they bear in mind on starting upon their careers.

In presenting the diplomas to the graduating class, Mr. George M. Crane, Secretary of the Board of Managers, paid a high tribute to the memory of Chauncey Rose. He told of what opportunities and advantages the Rose Polytechnic Institute offers its students, and what returns the Institute demands of its graduates.

The presentation of diplomas to the Class of 1910 followed.

The graduates who received the degree of Bachelor of Science, together with the titles of their theses, are:

Joseph V. Davidson, Huntington, W. Va.,
The Determination of Moisture in Coal.

Ralph L. Flood, Terre Haute,
A Comparison of the Different Volumetric Methods for the Determination of Manganese in Iron Ores.

Nathan A. Bowers, Preston, Cal.,
Donald B. Rush, Terre Haute,
Harry LaMar Smith, Terre Haute,
Design of Dam and Estimation of Power Available from Hydro-Electric Plant.

Arthur G. Butler, Terre Haute,
Charles M. Struck, Louisville, Ky.,
Charles E. Washburn, Heyworth, Ill.,
Test of Standard Design, Full Size, Wooden Roof Joints.

Walter B. Kuersteiner, Louisville, Ky.,
A Comparison of the Stresses in a Continuous Swing Bridge Using the Theorem of Three Moments and the Principle of Virtual Work.

Adolph A. Bareuther, Mattoon, Ill.,
Orville N. Bercaw, Paris, Ill.,
Alvin A. Piper, Paris, Ill.,

Tests of Some of the Modern Lamps, to Determine Illuminating Efficiency and Relative Cost of Operation.

Seth T. Hadley, Hadley, Ind.,
George F. Standau, Terre Haute,
Effect on Efficiency of Introducing Preheated Air into the Furnace of Boilers Owned by the Columbian Enameling and Stamping Company.

Howard W. Henry, Portsmouth, O.,
Design and Construction of a Three-Element Oscillograph.

Herman J. Madison, Terre Haute,
W. Henry Webster, St. Louis, Mo.,
The Calculation and Investigation of Interpoles.

Frank P. Mooney, St. Louis, Mo.,
 Philip W. Poindexter, Dillon, Mont.,
 Leo F. Stahl, Kokomo, Ind.,

Test of 3000-K. W. Steam Turbine Generator Set
 and Boilers at T. H., I. & E. Traction Company's
 Water Street Power Station.

James A. Shepard, Deming, N. M.,
 Paul F. Stokes, Norris City, Ill.,

A Study of the Skin Effect on Bi-Metallic Conduct-
 ors with the Aid of the Thermo-Galvanometer.

Henry M. Shaw, Las Vegas, N. M.,
 J. Harry Stump, Jr., Valdosta, Ga.,

A Further Investigation of the Effect of Winds on
 the Heat Losses from Frame Structures.

William L. Edwards, Indianapolis, Ind.,
 Earl D. Hay, Terre Haute,

An Experimental Study of the Compressive Forces
 Required to Form Rivet Heads.

Benjamin G. Elliott, North Platte, Neb.,
 Judson D. Geiger, Bucyrus, O.,

An Experimental Investigation of the Temperatures
 Existing in Turbine Blades.

Frank J. Frisz, Terre Haute,
 James T. Sutliff, Terre Haute,

An Efficiency Test of the Rope Transmission at
 Standard Wheel Company's Plant.

Higher degrees were conferred upon the fol-
 lowing:

CHEMICAL ENGINEER.

John J. Kessler, Jr., B.S. '97, M.S. '99,
 Professional Record.

Albert C. Lyon, B.S. '01,

The Testing of Raw Material for a Portland Ce-
 ment Plant, and Professional Record.

Leon J. Willien, Jr., B.S. '06, M.S. '08,

Sulphur in Illuminative Gas and Its Removal, and
 Professional Record.

CIVIL ENGINEER.

William H. Insley, B.S. 1900, M.S. '02,
 Professional Record.

Leon Goodman, B.S. '05,

Comparison of Cost of Construction of a Reinforced
 Concrete Warehouse of Several Different Designs,
 Under the Same Specifications, and Professional
 Record.

Edgar E. Larkins, B.S. '05, M.S. '08,
 Professional Record.

MASTER OF SCIENCE.

Everett E. King, B.S. '01, C.E. '09,

Tests on Concrete and Cement, and Graduate Study.

Robert B. Arnold, B.S. '03,
 Graduate Study and Record.

Carl Wischmeyer, B.S. '06,
 The Oscillograph, and Graduate Study.

William R. Plew, B.S. '07,
 Graduate Study and Record.

Paul A. Philippi, B.S. '09,
 Proposed Design for an Opera House, and Graduate
 Study.

Dr. Mees then presented the Heminway gold
 medal for highest degree of excellence in stand-
 ing for the entire four-year course to James A.
 Shepard, of Deming, N. M. The bronze medal,
 awarded for the highest standing in the Fresh-
 man Class, was presented to Ferdinand T. Loehn-
 inger, of Dayton, O.

Those who received honorable mention for
 their work during the past year are

Seniors—William Lytle Edwards, Indianap-
 olis; Earl Downing Hay, Terre Haute, and How-
 ard Whitcomb Henry, Portsmouth, O.

Juniors—Eric A. Mees, Columbus, O.; David
 J. Johnson, Chicago, and Ernest A. Garst, Day-
 ton, O.

Sophomores—William W. Reddie, Brazil;
 Carl P. Rommel, Deerfield, Ill.; Harry C. Uhl,
 Portsmouth, O.; Jerry H. Service, Jr., Misha-
 waka, Ind., and Rollin C. Rehm, Indianapolis.

Freshmen—Richard Madison, Terre Haute,
 and Albert F. Brennan, Indianapolis.

THE SENIOR RECEPTION.

The Senior Reception was held in the "Poly gym" Wednesday evening, June 8, 1910. The Seniors were the hosts on this occasion, and had the Rose students, their parents, the faculty and alumni as their guests. The guests began to assemble shortly after 8:30, and the dancing commenced at 10 o'clock, lasting until midnight.

The gymnasium was decorated in the school colors. Long streamers were suspended from the center and draped the walls. A large banner with the class numerals, 1910, partially covered the west wall, while large palms and ferns were massed along the sides.

Refreshments were served in the upstairs rooms, and a punch bowl stood at the head of the stairs. Breinig's orchestra furnished the music for the dance program.

The noise of commencement had scarcely subsided before Dr. Mees has started on his well-deserved vacation. Dr. Mees left Terre Haute June 11 for New York, and immediately took up the trip across the ocean. His vacation will be spent largely in Germany and Holland, and will extend up through the first week in September.

Among those who sought Terre Haute the earlier part of June to renew old acquaintances was Dr. A. W. Homberger. Dr. Homberger (the title has just been acquired this June from the University of Illinois in the form of a Ph.D.) is remembered by the older men in school as Dr. White's assistant in 1906. During the past year he has been engaged in special work at the University of Illinois.





...ATHLETICS...

With the DePauw baseball game, Rose finished another year of athletics. It must be admitted that the year did not end as well as it had promised. The football and basketball teams made records to be proud of, and in comparison that of the baseball team is a trifle disappointing, as only five out of thirteen games were won. The schedule was not a hard one, for Purdue and Notre Dame were the only teams played that were out of our class.

The track team had only two chances in which to show its worth, the Millikin and the I. C. A. L. meets. In the dual meet with Millikin our men were outclassed in the runs and the jumps, and the visitors ran up enough points in these events to take the meet.

Earlham, Wabash and DePauw were far too good for us in the I. C. A. L. meet.

The basketball team won some mighty good games, and it will be a long time before the Wabash and the Michigan "Aggie" victories will be forgotten by those who saw them. The only regret of the season is that we lost both games to Earlham.

* * *

The football team broke even on its season, winning four and losing four, but the four games lost were to worthy teams. The football season also leaves us some pleasant memories—the DePauw, Butler and Franklin victories.

* * *

Coach "Heze" Clark will be back with us next year for football, and we are certainly glad

of it. In the last two football seasons "Heze" has turned out two of the best football teams Rose has ever had. It was under him that the team in 1908 won those two tight games from DePauw and Butler. Next year we have Wabash here, and our chances look good to win another game from the "Little Giants."

* * *

Track and baseball still occupied the center of the athletic stage for this month. The track team was busy in the preparation for the Millikin and I. C. A. L. meets.

* * *

The first part of May turned out disastrously for the baseball team. On the 12th of the month they started on a three-day trip, and Wabash, Culver and Notre Dame each added a game to their win column. The first two games were lost simply because Rose couldn't get together; everybody was up in the air. The Notre Dame game was better, and the score surprised everybody, as the Notre Dame team had expected to beat us by twenty scores. Then came the Normal game on Rose campus, and the first inning soon decided how it would end. When Normal woke up, Rose had five runs across the plate. Friedman was easy for most of the team. Shook played his part in the hitting, getting three hits, one a double and one a three-bagger. Next came Eastern Illinois Normal and Moore's Hill, and they were easy. Tommy Barrett pitched both of these games and struck out twenty-three in the two games, allowing seven

hits. The best game of the season was lost to Normal on their own field. Any one that saw the game would say that Rose deserved to win, for Shook pitched the game of his life. For nine innings they did not get even the semblance of a hit, one man getting to first on a base on balls, but he was caught stealing. In all the Normalites only got three hits. It had been intended to play off the tie, but the Rose Faculty would not allow it on account of the examinations. DePauw won the last game of the season. Tommy Barrett pitched again, while Overman pitched for DePauw. The DePauw man struck out fourteen, while Tommy raised his record to thirty-five for three games.

* * *

At the end of the baseball scores will be found a table of the fielding and batting per cents. of the baseball team and some other averages that might be of interest.

* * *



CAPTAIN SHOOK.



CAPTAIN COFFEY.

* * *

Captain Shook, of the baseball team, has been reelected captain for next year. "Shookie" got a late start this year, but the record he made was one to be proud of. Next year he will get

an early start, and with the material on hand should make a winner.

* * *

O. L. Coffey, who has been a member of the track team for two years, was elected track captain for the coming year. Coffey made his "R" the first year, and will be a good man to give pointers to the track squad next spring.

BASEBALL.

Wabash, 5; Rose, 2.

Rose lost this game through their poor work in the field, as they outhit Wabash eight to six. Shook pitched a nice game, and deserved to win.

Wabash scored her only earned run in the first inning. Herron singled, Starbuck drew a pass and Bridge brought Herron across on a single to center. Starbuck went the rounds on errors. For the next three innings the Rose men played good ball, and in the fourth they tied up the score. Bradford drew a pass. Lawler doubled over the left fielder's head, pushing "Brad" to third. Shook put both men over on a single to center.

The Little Giants came right back in their half of the fifth, when the Rose team went to pieces, and cinched the victory. Bridge singled to start the round, and Lambert doubled, but Bridge was held at third on Wyeth's quick recovery. Huffin walked, and Lawler let the ball go through him. All three runners scored on the receiver's error. Score:

WABASH.

	A.B.	R.	H.	P.O.	A.	E.
Herron, ss.....	5	1	1	5	3	1
Ash, rf.....	5	0	1	1	0	0
Starbuck, lb.....	5	1	0	7	0	0
Bridge, cf.....	4	1	1	2	0	0
Lambert, lf.....	4	1	2	2	0	0
Huffin, c.....	3	1	1	3	2	0
Rich, 3b.....	4	0	0	3	1	1
Williams, 2b.....	4	0	0	4	4	0
Winnie, p.....	4	0	0	0	2	1
Totals.....	38	5	6	27	12	3

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Wyeth, cf.....	4	0	1	4	0	0
Bradford, 2b.....	3	1	1	3	1	2
Lawler, c.....	4	1	1	5	0	1
Buckner, lf.....	4	0	1	4	0	0
Shook, p.....	4	0	2	1	2	0
Nicholson, 1b.....	4	0	1	4	0	0
Hoffner, rf.....	2	0	0	0	0	0
Fishback, ss.....	3	0	0	3	1	2
Barrett, 3b.....	3	0	1	0	1	3
Newlin, rf.....	2	0	0	0	0	1
Totals.....	33	2	8	24	5	9

SCORE BY INNINGS.

Wabash	2	0	0	0	3	0	0	0	*—5
Rose Poly.....	0	0	0	2	0	0	0	0	0—2

SUMMARY.

Bases on balls—Off Shook, 3; off Winnie, 1. Struck out—By Shook, 3; by Winnie, 3. Two-base hits—Wyeth, Lawler, Lambert. Stolen bases—Hoffner, Huffin. Double plays—Herron to Williams to Starbuck; Herron to Rich to Starbuck. Passed ball—Lawler. Left on bases—Rose Poly, 4; Wabash, 11. Time of game—One hour and thirty-five minutes. Umpire—Jack Grim. Attendance—Five hundred.

* * *

Culver, 9; Rose, 8.

The less said about this game, the better. Under any other circumstances Rose would have won from this team by a large score. As it was, the team came near winning out in the eighth and ninth innings. Tommy Barrett pitched this game, but the errors were too much for him. A feature of the game was a home run by Hawkins. Score:

CULVER.

	A.B.	R.	H.	P.O.	A.	E.
Rutledge, cf.....	5	1	1	1	0	0
Miers, c.....	4	2	0	4	2	0
Greer, 2b.....	5	1	2	4	3	1
Hopwood, lf.....	4	0	0	1	0	0
Rathbon, 1b.....	5	1	2	10	0	1
Brumback, 3b.....	4	0	1	1	2	0
Hawkins, ss.....	4	2	2	1	4	3
Yarnelle, ss.....	0	0	0	0	0	0
Iles, rf.....	4	1	0	1	0	0
Malloy, lf.....	1	0	0	3	0	0
Johnson, p.....	3	1	0	0	0	0
Thompson, p.....	0	0	0	0	1	0
Totals.....	39	9	8	*26	12	5

* Fishback out, hit by batted ball.

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Wyeth, cf.....	3	1	1	2	0	0
Bradford, 2b.....	6	1	1	2	3	3
Lawler, c.....	3	0	1	6	1	0
Buckner, lf.....	4	1	0	1	0	0
Shook, 3b.....	5	0	0	0	3	1
Nicholson, 1b.....	5	1	0	12	0	1
Hoffner, rf.....	2	1	1	1	0	0
Fishback, ss.....	4	1	2	0	3	2
Barrett, p.....	4	2	0	0	3	0
Totals.....	36	8	6	24	13	7

SCORE BY INNINGS.

Culver	0	2	3	1	2	0	0	1	*—9
Rose Poly.....	0	3	2	0	0	0	0	2	1—8

SUMMARY.

Struck out—By Barrett, 4; by Johnson, 3; by Thompson, 1. Bases on balls—Off Johnson, 8; off Thompson, 2; off Barrett, 3. Home run—Hawkins. Two-base hit—Rathbon. Left on bases—Rose Poly, 12; Culver, 8. Stolen bases—Rose Poly, 12; Culver, 1. Time of game—Two hours and twenty minutes. Umpire—Robinson. Attendance, Six hundred.

* * *

Notre Dame, 4; Rose, 0.

After going up in the air for two games, Rose came back and played a fine game against the Catholics. Ryon, Notre Dame's best pitcher, was in the box, and four hits were all that were made off of him. Shook only allowed seven hits, Captain Kelley getting three of these. Here is the way the runs were scored:

First Inning—Connolly struck out. Quigley hit to left for two bases and scored on Buckner's wild throw. One hit, one run.

Second Inning—Phillips struck out. O'Connell went out, Fishback to Nicholson, but Ulatowski was safe on Fishback's error. Ryan drove one to left for three bags, Ulatowski scoring. One hit, one run.

Fifth Inning—Connolly went out, Fishback to Nicholson, and Maloney went out, Bradford to Nicholson. Hamilton was safe at second on Buckner's error. Hamilton stole third and scored on Kelley's single to left. One hit, one run.

Eighth Inning—Kelley hit to left and stole

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second. Williams went out, Shook to Nicholson. Phillips singled to left, Kelley scoring. Two hits, one run. Score:

NOTRE DAME.

	A.B.	R.	H.	P.O.	A.	E.
Connolly, 3b.....	4	0	0	0	2	0
Quigley, cf.....	2	1	2	0	0	0
Hamilton, rf.....	3	1	0	0	1	0
Kelley, 2b.....	4	1	3	1	4	0
Williams, lf.....	4	0	0	1	0	0
Phillips, 1b.....	4	0	1	13	0	1
O'Connel, ss.....	4	0	0	3	3	1
Ulatowski, c.....	3	1	0	9	1	0
Ryon, p.....	3	0	1	0	2	0
Maloney, cf.....	2	0	0	0	0	0
Totals.....	33	4	7	27	13	2

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Bradford, 3b.....	4	0	0	0	2	0
Lawler, c.....	4	0	0	5	0	0
Buckner, lf.....	4	0	1	5	0	1
Wyeth, cf.....	4	0	1	4	0	0
Shook, p.....	3	0	1	0	3	0
Barrett, 3b.....	3	0	0	0	0	0
Nicholson, 1b.....	3	0	0	8	0	0
Hoffner, rf.....	3	0	1	2	0	0
Fishback, ss.....	3	0	0	0	2	1
Totals.....	31	0	4	24	7	2

SCORE BY INNINGS.

Notre Dame.....	1	1	0	0	1	0	0	1	*—4
Rose Poly.....	0	0	0	0	0	0	0	0	0—0

SUMMARY.

Hits—Off Shook, 7; off Ryon, 4. Base on balls—Off Shook, 1. Struck out—By Shook, 3; by Ryon, 8. Three-base hit—Ryon. Two-base hit—Quigley. Stolen bases—Rose Poly, 1; Notre Dame, 4. Sacrifice—O'Connel, Hamilton. Left on bases—Rose Poly, 4; Notre Dame, 8. Time of game—One hour and twenty-five minutes. Umpire—Jimmie Cooke. Attendance—Eight hundred.

* * *

Normal, 4; Rose, 11.

Normal put up a poor game and Rose got a lead of five runs in the first inning. Captain Shook was the heavy hitter, getting a single, two-bagger and three-bagger. One of the largest crowds that ever turned out to a game at Rose campus was on hand. The score:

NORMAL.

	A.B.	R.	H.	P.O.	A.	E.
Bird, 3b.....	4	1	1	2	3	0
Skeeters, ss.....	4	1	1	1	1	3
Wilson, rf.....	4	0	0	0	0	1
Jones, 1b.....	4	0	1	10	0	0
Friedman, p.....	4	0	1	1	4	2
Myers, 2b.....	4	0	0	5	4	2
Harbaugh, lf.....	4	1	1	0	1	1
York, c.....	3	1	1	3	0	0
Brown, cf.....	3	0	1	2	0	0
Totals.....	34	4	7	24	13	9

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Bradford, 2b.....	5	2	0	2	2	0
Lawler, c.....	4	0	1	1	2	0
Buckner, lf.....	5	2	2	1	0	0
Wyeth, cf.....	5	2	0	2	0	0
Shook, p.....	4	3	3	2	6	0
Hoffner, rf.....	3	1	1	3	0	0
Barrett, 3b.....	3	1	1	3	2	2
Nicholson, 1b.....	3	0	1	7	0	0
Watts, 1b.....	1	0	0	5	0	0
Fishback, ss.....	4	0	0	0	2	1
Totals.....	37	11	9	*26	14	3

* York out for stepping out of batter's box on hit ball.

SCORE BY INNINGS.

Normal	0	0	0	0	1	0	0	3	0—4
Rose Poly.....	5	0	1	0	1	0	3	1	*—11

SUMMARY.

Three-base hit—Shook. Two-base hits—Bird, Friedman, Shook, Buckner. Sacrifice hit—Lawler. Sacrifice fly—Hoffner. Stolen bases—Bradford, Lawler, Wyeth, Hoffner 2, Bird, Skeeters, Jones. Struck out—By Friedman, 3; by Shook, 1. First base on balls—Off Friedman. Left on bases—Normal, 4; Rose Poly, 4. Double plays—Shook to Nicholson; Myers to Jones. Time of game—One hour and twenty-five minutes. Umpire—Spears. Attendance—One thousand.

* * *

E. I. S. N., 1; Rose, 4.

Tommy Barrett was too much for the Charleston Normal team, allowing five little hits and striking out ten. Sampson, for Normal, was in much better form than he was in the first game between the two teams, and he held the

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Rose hitters to nine hits. The one error made by Rose had nothing to do with the scoring, a hit by pitcher, stolen base and a hit scored the Teachers' only run. The score:

E. I. S. N.

	A.B.	R.	H.	P.O.	A.	E.
Fleming, lf.....	4	0	1	1	0	0
Voyles, ss.....	4	0	0	3	4	0
C. Hill, 1b.....	4	0	1	10	0	1
Walk, 2b.....	4	0	0	2	2	0
Buckley, rf.....	3	0	0	0	0	0
S. Hill, 3b.....	3	1	0	0	0	2
Sampson, p.....	2	0	1	1	3	2
Stanberry, cf.....	3	0	2	1	0	0
Brown, c.....	2	0	0	6	4	0

Totals.....29 1 5 24 13 5

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Bradford, 2b.....	3	0	1	4	0	1
Lawler, c.....	4	0	1	11	2	0
Buckner, lf.....	4	0	1	0	0	0
Wyeth, cf.....	4	1	0	0	0	0
Hoffner, rf.....	4	2	2	1	0	0
Barrett, p.....	4	1	3	2	3	0
Watts, 1b.....	4	0	0	5	0	0
Fishback, ss.....	2	0	0	2	2	0
Newlin, 3b.....	3	0	1	2	1	0

Totals.....32 4 9 27 8 1

SCORE BY INNINGS.

E. I. S. N.....	0	0	0	0	0	0	1	0	0—1
Rose Poly.....	0	0	0	0	0	0	3	1	*—4

SUMMARY.

Two-base hits—Fleming, Barrett. Stolen bases—Bradford 2, Lawler, Hoffner, Barrett, C. Hill, S. Hill, Sampson, Stanberry, Brown. Struck out—By Barrett, 10; by Sampson, 3. First base on balls—Off Sampson, 2; off Barrett, 1. Hit by pitcher—Sampson, S. Hill, Buckley. Left on bases—Rose Poly, 7; E. I. S. N., 5. Double plays—Voyles to Brown; Brown to C. Hill. Wild pitch—Barrett. Time of game—One hour and forty minutes. Umpire—Pfirman.

* * *

Moore's Hill, 2; Rose, 7.

Tommy Barrett was again on hand in this game, setting a new strike-out record of thirteen. The score:

MOORE'S HILL.

	A.B.	R.	H.	P.O.	A.	E.
Edwards, lf.....	4	0	0	1	0	0
Durban, cf.....	2	0	0	0	1	0
Bigney, 1b.....	4	0	0	11	0	0
Holtgel, 3b.....	4	1	1	2	3	2
Broadwell, ss.....	3	0	0	0	3	2
Burlingame, 2b.....	3	0	0	0	2	0
Ward, c.....	2	0	0	7	1	0
Wilson, rf.....	3	0	0	2	0	1
Brown, p.....	1	1	0	1	3	2
Ester, lf.....	1	0	0	0	1	0
Twinman, cf.....	2	0	1	0	0	0

Totals.....29 2 2 24 14 7

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Bradford, 2b.....	4	1	1	1	2	0
Lawler, c.....	4	0	0	11	3	2
Buckner, lf.....	4	1	2	1	0	1
Wyeth, cf.....	4	1	0	0	0	0
Shook, 3b.....	3	0	1	0	1	0
Hoffner, rf.....	3	2	1	0	0	0
Barrett, p.....	4	0	1	2	6	0
Nicholson, 1b.....	3	1	1	10	0	0
Fishback, ss.....	2	1	1	1	1	0
Watts, 1b.....	1	0	0	1	0	0

Totals.....32 7 8 27 13 3

SCORE BY INNINGS.

Moore's Hill.....	0	0	0	0	0	1	1	0	0—2
Rose Poly.....	0	1	0	2	2	2	0	0	*—7

SUMMARY.

Bases on balls—Off Brown, 2; off Barrett, 2. Struck out—By Barrett, 13; by Brown, 2. Three-base hit—Barrett. Two-base hits—Shook, Buckner. Stolen bases—Bradford 2, Wyeth, Hoffner, Nicholson. Sacrifice hit—Buckner. Sacrifice flies—Hoffner. Double plays—Barrett to Nicholson. Hit by pitched ball—Brown, Broadwell. Left on bases—Rose Poly, 3; Moore's Hill, 1. Time of game—One hour and forty-five minutes. Umpire—Pfirman.

* * *

Normal, 1; Rose, 0.

For fourteen innings Rose and Normal fought, Rose putting up the best fight, only to lose out by a little streak of luck in the fourteenth. Shook pitched a great game, the three hits only coming in the last five innings of play.

Rose Poly put up a fast game and made only one error, it being excusable. In the fourteenth inning, with two down, Fortner struck at a wild one on his third strike and gained first base. Friedman's clean two-sacker brought him in. The score:

NORMAL.

	A.B.	R.	H.	P.O.	A.	E.
Bird, 3b.....	5	0	1	0	2	3
Wilson, rf.....	4	0	0	1	0	0
Jones, 1b.....	4	0	0	22	0	1
York, c.....	5	0	0	10	0	0
Myers, 2b.....	5	0	1	3	11	0
Harbaugh, lf.....	4	0	0	1	0	0
Shepard, ss.....	5	0	0	1	2	1
Fortner, p.....	5	1	0	2	5	0
Brown, cf.....	2	0	0	0	0	0
Friedman, cf.....	4	0	1	2	1	0
Totals.....	43	1	3	42	21	5

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Bradford, 2b.....	6	0	0	2	2	0
Lawler, c.....	6	0	2	4	4	0
Buckner, lf.....	6	0	0	4	0	0
Wyeth, cf.....	6	0	2	3	0	0
Shook, p.....	5	0	0	2	5	0
Hoffner, rf.....	6	0	0	1	0	0
Barrett, 3b.....	6	0	0	3	4	0
Nicholson, 1b.....	4	0	1	21	0	1
Fishback, ss.....	5	0	2	1	7	0
Totals.....	50	0	7	*41	22	1

* Two out when winning run was scored.

SCORE BY INNINGS.

Normal	0	0	0	0	0	0	0	0	0	0	0	0	1-1
Rose Poly.....	0	0	0	0	0	0	0	0	0	0	0	0	0-0

SUMMARY.

Bases on balls—Off Shook, 1; off Fortner, 1. Struck out—By Shook, 7; by Fortner, 9. Two-base hits—Friedman, Lawler, Fishback. Stolen bases—Lawler 2, Hoffner, Bradford, Nicholson, Jones 2, Harbaugh. Sacrifice hits—Shook, Jones, Lawler. Double play—Shook to Nicholson. Hit by pitched ball—Wilson. Wild pitch—Shook. Left on bases—Rose Poly, 7; Normal, 2. Time of game—Two hours and ten minutes. Umpire—Pfirman.

DePauw, 4; Rose, 1.

The team was no match for Overman, while DePauw got to Barrett for nine hits and four runs. Shook had a sore arm and was unable to pitch this last game. Rose's only run came when Lawler hit in the first inning, stole second and went to third on a wild throw by Overman. Wyeth's clean single brought him in. The score:

DEPAUW.

	A.B.	R.	H.	P.O.	A.	E.
Adams, 3b.....	5	2	3	1	1	0
Bryant, ss.....	3	0	1	2	0	1
Overman, p.....	4	0	0	0	5	0
Collins, cf.....	4	0	0	1	0	0
Hardin, c.....	4	0	1	14	1	0
Johnson, 1b.....	5	0	1	7	1	0
Tucker, lf.....	2	0	0	0	0	0
Patterson, rf.....	4	1	1	0	0	0
Crouch, 2b.....	3	1	2	2	1	0
Biddle, lf.....	2	0	0	0	0	0
Totals.....	36	4	9	27	9	1

ROSE POLY.

	A.B.	R.	H.	P.O.	A.	E.
Bradford, 2b.....	4	0	0	1	2	0
Lawler, c.....	4	1	1	13	0	0
Buckner, lf.....	4	0	0	1	0	0
Wyeth, cf.....	4	0	2	1	0	0
Shook, 3b.....	4	0	0	2	1	0
Hoffner, rf.....	4	0	2	0	0	0
Barrett, p.....	2	0	0	0	5	0
Nicholson, 1b.....	3	0	1	9	0	0
Fishback, ss.....	2	0	0	0	2	1
Totals.....	31	1	6	27	10	1

SCORE BY INNINGS.

DePauw	0	0	0	1	0	1	0	2	0-4
Rose Poly.....	1	0	0	0	0	0	0	0	0-1

SUMMARY.

Bases on balls—By Barrett, 3; by Overman, 2. Struck out—By Barrett, 12; by Overman, 14. Three-base hits—Hoffner, Adams. Two-base hits—Hoffner, Hardin. Stolen bases—Barrett, Wyeth, Lawler, Overman. Sacrifice hits—Bryant. Sacrifice flies—Bryant. Hit by pitched ball—Patterson, Biddle, Crouch. Wild pitches—Barrett, 2; Overman, 1. Left on bases—Rose Poly, 6; DePauw, 10. Time of game—One hour and forty-five minutes. Umpire—Grim.

THE RECORD.

Rose, 21; E. I. S. N., 3.
 Rose, 0; Purdue, 11.
 Rose, 3; Bradley, 20.
 Rose, 1; DePauw, 2.
 Rose, 3; Wabash, 0.
 Rose, 2; Wabash, 5.
 Rose, 8; Culver, 9.
 Rose, 0; Notre Dame, 4.
 Rose, 11; Normal, 4.
 Rose, 7; Moore's Hill, 2.
 Rose, 4; E. I. S. N., 1.
 Rose, 0; Normal, 1 (14 innings).
 Rose, 1; DePauw, 4.

* * *

BATTING AND FIELDING PER CENTS.

	G.	A.B.	R.	H.	PCT.
Floyd, ss. and rf.....	3	5	0	2	.400
Buckner, lf.....	13	56	7	13	.232
Hoffner, rf.....	13	47	8	10	.213
Shook, p. and 3b.....	12	47	6	10	.213
Lawler, c.....	13	52	7	11	.211
Wyeth, cf.....	13	55	8	10	.181
Fishback, ss.....	13	41	6	7	.171
Barrett, 3b.....	13	48	8	8	.167
Nicholson, 1b. and 2b.....	12	41	4	6	.146
Newlin, p., 3b. and rf.....	5	7	0	1	.143
Bradford, 2b.....	10	43	5	6	.140
Watts, 1b.....	5	13	2	1	.077

	CHANCES.	E.	PCT.
Floyd, ss. and rf.....	4	1	.750
Buckner, lf.....	24	2	.917
Hoffner, rf.....	23	0	1.000
Shook, p. and 3b.....	49	3	.939
Lawler, c.....	111	6	.946
Wyeth, cf.....	25	0	1.000
Fishback, ss.....	51	9	.824
Barrett, 3b.....	56	10	.821
Nicholson, 1b. and 2b.....	107	4	.962
Newlin, p., 3b. and rf.....	13	5	.615
Bradford, 2b.....	45	7	.844
Watts, 1b.....	26	0	1.000

PITCHING RECORD.

	WON.	LOST.
Shook	3	6
Barrett	2	2
Total.....	5	8

THE INTER-COLLEGIATE ATHLETIC LEAGUE TRACK MEET.

POINTS SCORED BY THE TEAMS.

Earlham College.....	43
Wabash College.....	41
DePauw University.....	27
Rose Polytechnic.....	6
Indiana State Normal.....	0

Teams representing the above-named schools met on the Rose campus on May 21, for the 1910 I. C. A. L. track meet. The three-months'-old track proved to be especially fast, as one track record was broken and two tied, while the time on all events was fast. Conrad, of Earlham, proved to be the big man of the meet, scoring 22 points for his team, with three firsts, a tie and a second. He broke the I. C. A. L. record for the 220-yard dash, by running it in the remarkable time of 21 2-5 seconds, and also tied the 100-yard dash record of 10 seconds. Besides this, it was largely through his competition that Starbuck, of Wabash, was able to break the old pole-vault record of 10 feet 6 inches with a new one of 11 feet 4 inches. Elliott, of Wabash, tied the league record for the 220-yard low hurdles, 26 2-5 seconds.

Rose seemed to be completely outclassed, and except for Captain Standau would not have scored. He took first in the shotput with a heave of 37.15 feet, and third in the discus. Eberts, Hoover and Stanley were too much for him in the hammer throw.

Probably the closest event of the meet was the high jump. Conrad, of Earlham, and Walker, of DePauw, tied at 5 feet 8½ inches, and neither could clear the bar at 5 feet 9½ inches in the three trials. The points were divided, and then in the jumping off of the tie Conrad cleared the bar on his first attempt, and Walker could not duplicate.

The meet was a great success as far as athletics were concerned, but was a failure finan-

cially, as a very small crowd attended. Manager Madison deserved better success, as the meet was run off in good style. It was through the personal attention of Manager Madison and Coach Clark that the track was completed in three months, and, as shown by the following records, it proved to be a good one. Summary:

100-yard dash—Conrad, Earlham, first; Grady, DePauw, second; Calvin, DePauw, third. Time, 10 seconds.

120-yard high hurdles—Hesler, Wabash, first; Elliott, Wabash, second; Schlatterman, DePauw, third. Time, 16 2-5 seconds.

440-yard dash—Brown, Earlham, first; Grady, DePauw, second; Sanders, Earlham, third. Time, 51 4-5 seconds.

220-yard dash—Conrad, Earlham, first; Brown, Earlham, second; Calvin, DePauw, third. Time, 21 2-5 seconds.

220-yard low hurdles—Elliott, Wabash, first; Hesler, Wabash, second; Schlatterman, DePauw, third. Time, 26 2-5 seconds.

880-yard run—Sommerville, DePauw, first; Stanton, Wabash, second; Hochsteder, DePauw, third. Time, 2 minutes 5 4-5 seconds.

Mile run—Sommerville, DePauw, first; Kingery, Wabash, second; Hochsteder, DePauw, third. Time, 4 minutes 41 4-5 seconds.

Discus hurl—Kelsay, Earlham, first; Cravens, Wabash, second; Standau, Rose Poly, third. Distance, 106 4-10 feet.

High jump—Conrad, Earlham, and Walker, DePauw, tied for first; Roberts, Earlham, third. Height, 5 feet 8 $\frac{1}{4}$ inches.

Shotput—Standau, Rose Poly, first; Stanley, Earlham, second; Kelsay, Earlham, third. Distance, 37 15-100 feet.

Broad jump—Conrad, Earlham, first; Starbuck, Wabash, second; Hardin, DePauw, third. Distance, 22 feet $\frac{1}{2}$ inch.

Hammer throw—Eberts, Wabash, first; Hoover, Wabash, second; Stanley, Earlham, third. Distance, 113 feet 6 inches.

Pole vault—Starbuck, Wabash, first; Conrad, Earlham, second; Mills, Earlham, third. Height, 11 feet 4 inches.

Points scored—Earlham, 43; Wabash, 41; DePauw, 27; Rose Poly, 6.

THE MILLIKIN-ROSE MEET.

Millikin	61
Rose	48

Weather conditions were bad at this meet, and it was too cold for the athletes to get limbered up. Rose got a good lead at the start of the meet in the dashes, and it looked as if we would win; but Millikin was strong in the distance runs and jumps, and soon overcame the lead.

The half-mile relay was the most exciting race of the day. Millikin got a good lead at the start, but Wyeth, who was third man, overcame the lead, and Shaw kept the advantage by running away from Smith, Millikin's best man. Webster had it easy in the hurdles, while he and Standau took all the points in the discus, although the distance was not good.

Webster, of Rose, was the largest point maker, having three firsts and a second, or a total of eighteen points. Smith, of Millikin, was second with thirteen points.

Complete summary of all events (only two places were awarded in each) is as follows:

100-yard dash—Shaw, Rose Poly, first; Smith, Millikin, second. Time, 10 4-5 seconds.

220-yard dash—Smith, Millikin, first; Shaw, Rose Poly, second. Time, 24 seconds.

440-yard dash—Smith, Millikin, first; Wallace, Millikin, second. Time, 56 3-5 seconds.

880-yard run—Wallace, Millikin, first; Coffey, Rose Poly, second. Time, 2 minutes, 11 seconds.

Mile run—Perry, Millikin, first; Wallace, Millikin, second. Time, 5 minutes, 24 seconds.

120-yard high hurdles—Webster, Rose Poly, first; Myers, Millikin, second. Time, 18 seconds.

220-yard low hurdles—Webster, Rose Poly, first; Myers, Millikin, second. Time, 28 4-5 seconds.

Discus hurl—Webster, Rose Poly, first; Standau, Rose Poly, second. Distance, 95 feet 3 inches.

Hammer throw—King, Millikin, first; Webster, Rose Poly, second. Distance, 91 feet 3 inches.

Shotput—Standau, Rose Poly, first; Wacaser, Millikin, second. Distance, 38 feet 7 4-5 inches.

Pole vault—Scheer, Millikin, first; Rohm, Rose Poly, second. Height, 8 feet 10 inches.

High jump—Welsh, Millikin, first; Veirs, Millikin, second. Height, 4 feet 9 inches.

Broad jump—Veirs, Millikin, first; Standau, Rose Poly, second. Distance, 20 feet 3 inches.

Relay race (half mile)—Won by Rose Poly. Time, 1 minute, 42 2-5 seconds.

THE TENNIS TOURNAMENT.

In the I. C. A. L. tennis tournament Earlham won the doubles, Beebe and Nicholson representing the Quakers. In the preliminaries Hanover won from Indiana Normal 6-2 and 6-0, and Earlham won from Rose 6-0 and 6-0. Wentz and Ohmann represented Rose. In the finals Earlham won from Hanover, 2-6, 6-4, 7-5, 3-6, 7-5.

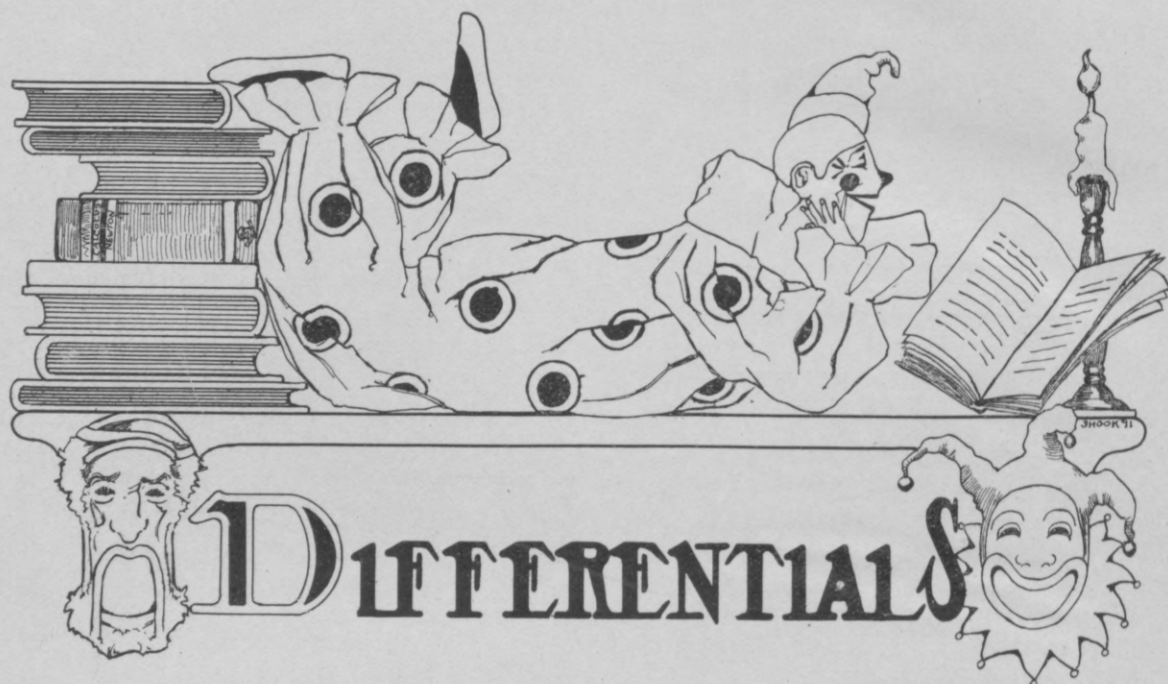
Although the Earlham players walked off

with the championship in the doubles of the tournament, they were unable to compete in the singles with Dale, the clever little player from DePauw. He now holds the title for Indiana secondary colleges, winning from Wentz, of Rose, in the finals by the score of 6-2, 6-2 and 6-4. He also won from Beebe, of Earlham, by 6-4 and 6-3.

In the preliminaries Wentz defeated Miner, of Normal, and Dale defeated Miller, of Hanover. These games were not hotly contested. It was thought that Miller would be a factor in the singles, but, owing to his playing in the final doubles just before entering the single contest, he was unable to live up to expectations.

Dale thoroughly demonstrated his ability as a tennis player, and apparently at no time could his opponents touch him. He is quick, heady and possesses the necessary strategy.





Denny (in French)—The wind shook like the oak tree, which alone was my supporter.

* * * *

Doc—What fine presence that girl has.

Hof—Do you mean how she looks or what she got?

* * * *

There are meters of ice,
There are meters of stone,
But the best meter of all

Is to meet her alone. —*Ex.*

* * * *

His Wife—Warren, I do wish you would quit smoking that nasty old pipe.

Brewer—Why do you want me to give up my pipe?

H. W.—Well, I thought you might cut out your pipe dreams and make good.

* * * *

Doc White (in museum, holding up specimen)—What is this?

Smith—Why—er—that's native mud.

Bailey (discussing the latest danseuse)—Ah! my boy, she is as bright as the morning.

Denny—That's strange; I heard she was as plain as day.

* * * *

A young lady Dr. named Pr.
Had a parrot that constantly shr.
That parrot would swear
Till he brimstoned the air,
And if she protested, he mr.—*Ex.*

* * * *

Shep is the proud possessor of two forms of thirsts. The Faculty loves his thirst after knowledge, while he loves the other.

* * * *

Hyde (homeward bound in the wee sma' hours of the morning, noticing the G. A. R. decorations)—I didn't know this was Monday.

Klenk—And why do you think this is Monday?

Hyde—Why, everybody has hung out the wash.

Freshie—What kind of questions does Doc White ask on exams?

Sophie—Sample: How is a gas, and why?

* * * *

Comedy of Errors—Freshmen.

Much Ado About Nothing—Sophomores.

As You Like It—Juniors.

All's Well that Ends Well—Seniors.—*Ex.*

* * * *

Bill Royse—

Mustache—

'Nuf sed!

* * * *

Knippy (advising what to review for exam)
—I don't want you to memorize this chapter, but
I do want you to know everything in it.

* * * *

HAVE YOU HEARD THESE BEFORE?

Please answer to your names

I will take this up in another lecture.

Now, I don't know how I can really make
you learn this verb.

Another one that had a good time last night!
Now, boys—

Now, as soon as you get that problem, you
can go.

Will all the Freshmen come into the recitation
room, please?

There is absolutely no necessity for any one
rolling blocks down that stairway.

Take it from me, I'll shtop dat. You can
pack up and go now.

If you gentlemen can't behave and keep quiet
in here, I shall have to lock the doors.

Hey! you. Get down off that ladder I'll
send you to the "Supe."

Gentlemen, this is so. I'll stake my life on it.

* * * *

Bobbie—Papa says "Honesty is the best policy," doesn't he, mamma?

Mamma—Yes, dear.

Bobbie—Well, how does he know?—*Ex.*

Dr. White (in mineralogy)—Now, a pseudo-morph means a false form, as it were.

Krieger to Beck—I saw some dandy pseudo-morphs yesterday.

Beck—Where?

Krieger—In Herz's show window.

* * * *

There is a professor named Knippy
Who teaches the Sophs electricity.

It will be a great day

When a Soph gets an "A"

Under the requirements of Herr Knippy.

* * * *

His hair is long,

He plays quite well,

And has a name

Like a college yell.

* * * *

IMPOSSIBLE.

Daddy—Adams, you are late for shop.
Why?

Adams—I—er—I must have overwashed myself.

* * * *

First Fresh—Don't wake me up in the
morning.

Second Ditto—We have shop.

First Ditto—Oh! yes, I know. But I can
make that up the next time I go.

* * * *

There was a dachshund once so long

You haven't any notion

How long it took to notify

His tail of his emotion:

And so it happened when his eyes

Were wet with woe and sadness

His tail would still be wagging on

Because of previous gladness. —*Ex.*

* * * *

Query—Who gets all of Daddy's black
shellac?

Query, also—How does O'Connell shine his
shoes?

Among the musical delights rendered by the Juniors at the Junior reception for the edification of their guests at the expense of the professors present were the following:

(Tune—"Dat Yiddisha Rag.")

Physical, physical lab. Oh! oh! that physical lab.;
Think of apparatus and all of the muss;
Ain't that enough to make any one cuss?
First there comes K-nip-sky, with his electricity,
Then there comes Jo-jo-ski,

WHAT SAY?

"Ain't that an awful place?"
I ask you, Doctor Mees,
"In that physical lab.?"

(Tune—"When eyes like yours.")

If eyes like Doc's looked into eyes like mine,
I think I'd like to keep on running all the time.
They're blue, blue, blue,
And they make me blue, too,
When the little doctor says:
"Young man, you're through, through, through."

TO THE SENIORS, BY THE FACULTY.

(Tune—"Won't you let me build a nest for you?")

Won't you let me find a place for you
High up in the professional tree,
Where the other fellow does all the work
While you draw the sal-a-ry?
You'll calmly sit in your office grand,
Handing wisdom to every one;
And the gray-haired men will listen, while
You tell them how it's done.

(Tune—"What's the matter with father?")

Oh! what's the matter with Malverd?
He's all right.
Oh! what's the matter with Malverd?
Though his mustache is a fright.
He loves his Civils, his Civils love him,
The other gazooks are useless as sin.
Oh! what's the matter with Malverd?
He's all right.

Oh! what's the matter with Bill Plew?
He's all right.
Oh! what's the matter with Bill Plew?
He's out of sight.
He loves his "Star" and his "Mail Pouch," too.
Oh! isn't it awful of you, Bill Plew?
Oh! what's the matter with Bill Plew?
He's all right.

Oh! what's the matter with Wicky?
He's all right.
Oh! what's the matter with Wicky?
He's out of sight.
He sleeps all day and he sleeps all night,
And when he sleeps, he sleeps d—d tight.
Oh! what's the matter with Wicky?
He's all right.

Oh! what's the matter with Hathaway?
He's all right.
Oh! what's the matter with Hathaway?
He's out of sight.
His Math's a fright, his collar is tight,
The noise in his room lasts from morn till night.
Oh! what's the matter with Hathaway?
He's all right.





Power Transmission By Steel Belts.

Thin steel belts have come into quite extended use in Germany and Belgium during the last two years. Some particulars regarding their recent development were given in a paper read before the Institution of Engineers, March 14th, by R. Krell, from which we have extracted the following notes:

The steel belts used are from 0.008 in. to 0.036 in. thick, and from $\frac{7}{8}$ in. to 8 in. wide, as required. Thus, for a 200-H. P. drive, one belt, 6 in. wide by 0.024 in. thick, is used; while for a 450-H. P. drive, two 6-in. belts, each 0.028 in. thick, are employed. The steel of which the belts are made is of special manufacture and takes a high temper.

The length of any given belt is found by passing a specially-devised steel tape around the pulleys, drawing it up to a predetermined tension, and then cutting it to exact length.

These belts run well on cast-iron pulleys, but after a time there is a tendency to polish the pulley surface. It is, therefore, desirable to cover the pulley with a very thin layer of cork, which is glued on canvas and this cemented to the pulley. In properly-designed drives there is practically no slip; this is shown by the fact that the cork does not wear away.

Steel belts neither stretch nor wear appreciably; widths of from one-tenth to one-third those of ordinary belts may be used, with great saving in cost of installation. Speeds up to

10,000 ft. per min. may be employed. Short drives may be used and the pull on bearings and the wear thereon are reduced. The belts, however, must be properly guarded, in order to avoid accidents due to their breaking when running at a high speed. Comparative figures for the transmission of 100 H. P. at 200 r.p.m., using 40-in. pulleys, 33 ft. between centers, are given below:

	Type of Drive		
	Rope. Six 1 $\frac{3}{4}$ -in. ropes	Leather belt. 20 in.	Steel belt. 4 in.
Width.....	15 in.	21 in.	4 $\frac{3}{8}$ in.
Pulley face.....	2200 lb.	1145 lb.	596 lb.
Weight of pulleys.....	414 lb.	309 lb.	29 lb.
Weight of belt (ropes).....	\$335	\$425	\$250
Cost of drive (German).....	13 H. P.	6 H. P.	0.5 H. P.
Power loss in driving.....			

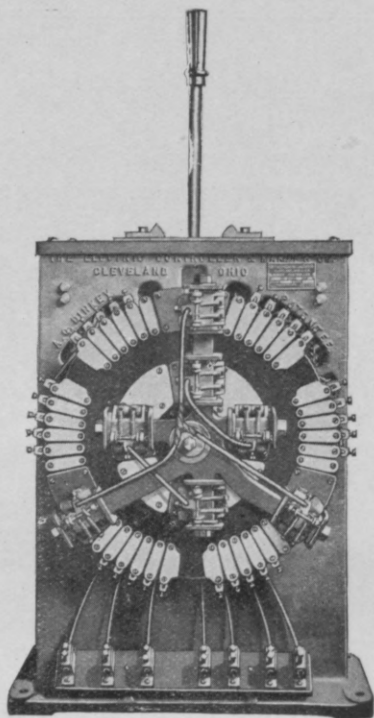
—*Industrial Engineering and the Engineering Digest.*

Vanadium Structural Steel.

The Engineering Record of June 4, 1910, presents an interesting article, accompanied by a series of tables, furnished by Mr. George L. Norris, of the American Vanadium Company, of the results of tests of angles, etc., made from chrome-vanadium steel, with a view toward determining the suitability of this metal for structural purposes. Hitherto vanadium steel has been nearly exclusively used to meet the special demands for high-grade steel in the automobile industry, and similar requirements for special purposes in connection with springs and tires for locomotives, protective deck plates for naval vessels, and steel castings with high elastic limits.

A New Line of Alternating Current Controllers.

Until quite recently, direct-current motors were used almost exclusively for operating electrically-driven cranes and mill machinery. However, the flexibility and ease with which alternating current may be transmitted has, within the past few years, resulted in a large and increasing



use of alternating-current motors for these applications.

For this character of work the series-wound direct-current motor has the very desirable characteristic of high-starting torque. In alternating-current motors this feature is more nearly found in the slip-ring type of motor than in the squirrel-cage type. Therefore, for the operation of cranes, mill tables, and other reversing work of

a similar nature, the development of the alternating-current motor has leaned heavily toward the use of the slip-ring motor. Speed and torque control are obtained by inserting and varying resistance in the secondary winding of the motor.

The Electric Controller and Manufacturing Company of Cleveland, O., has developed a comprehensive line of manually-operated controllers for slip-ring alternating-current motors from 1 to 100 H. P. These controllers follow as closely as possible in design and construction the direct-current controllers which this company has been manufacturing for years. In fact, wearing parts on the alternating-current and direct-current controllers are interchangeable to a large extent.

The controllers illustrated are for use in connection with reversing slip-ring motors, either 2-phase or 3-phase. The resistance is entirely self-contained, it being necessary to connect only seven leads to the controller. Where heavy currents are to be handled, cast-grid resistance is employed, and unusual precautions have been taken to insure insulation which will be permanently satisfactory.

All contacts are mounted on a vertical slate face, so that mill dust can not settle between segments, causing short circuits. All contacts are of heavy copper and are reversible. The use of screws or bolts with special threads has been avoided, and, so far as possible, wearing parts have been designed so that they can be manufactured by the user in his own repair shop.

The operation of all of these controllers is by a lever motion, which the manufacturers consider advantageous for crane and mill service. Although the cut illustrates a controller for slip-ring motors only, yet the Electric Controller and Manufacturing Company has furnished and is prepared to supply controllers for squirrel-cage motors and alternating-current commutating motors.

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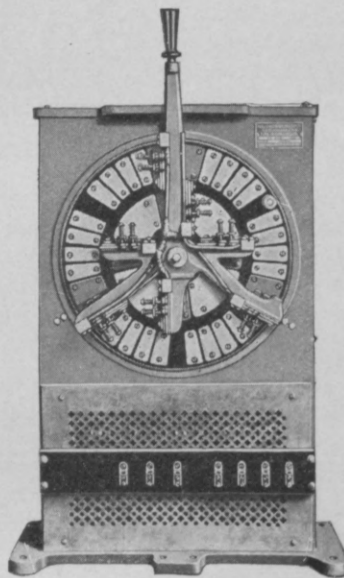
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