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The Rose Technic

PUBLISHED BI-WEEKLY DURING THE INSTITUTE YEAR BY THE STUDENTS OF THE ROSE POLYTECHNIC INSTITUTE
 Issued quarterly in magazine form. Issued every other Wednesday in sheet form.

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The close of the present school year marks the retirement of Prof. Wickersham, Prof. Hathaway and Mrs. Burton. They have given to the Institute a long and faithful service and it is with regret that we see them leave.

Professor Arthur S. Hathaway.

Arthur S. Hathaway was born in Van Buren County, Michigan, in 1855. He was gradu-

ated from the High School at Decatur, Michigan in 1868 and from Cornell University in 1879. He was Professor of Mathematics in the Friends High School of Baltimore until 1882 when he accepted a fellowship at Johns Hopkins. He returned to Cornell in 1885 as Instructor of Mathematics, from which position he was raised to the Assistant Professorship in 1889. In 1891 he came to Rose as Professor of Mathematics.

Professor Hathaway has always been a strong booster of Rose and an ardent follower of all branches of athletics. If he has ever missed a game on the home grounds we have lost the record of it. It is certain that such occasions have been few and far between. It will not seem natural next year not to see 'Fessor with his trusty watch in his hand, strolling up and down the lines at the football games or sitting behind the scorers table at the basketball games.

Professor Hathaway has not yet made his plans for next winter. We hope he will not decide to leave Terre Haute but wherever he goes he will always have the best wishes of all the Alumni and present students of Rose.

Professor James A. Wickersham.

James A. Wickersham was born in Wilmington, Ohio, February 2, 1851. His early education was obtained at Hesper, Iowa, where his parents had moved from Ohio. They soon moved again, going to Lawrence, Kansas, where Prof. Wickersham entered the University of Kansas which was founded

about this time. He graduated in 1876 with the degree of B. S. and was given an instructorship in Greek which position he held for two years. He was then offered the chair of Greek at the University but declined in order to study abroad. He left America in 1878 and spent three years studying under the old German masters at Leipsig, Berlin and Fulingen and in traveling in Spain, France, Italy and Greece. He returned from Europe in 1881 and accepted a position as principal of the high school at Franklin Falls, N. H. He soon moved to Chicago where he was engaged when offered his present position at Rose, a few months after the founding of the Institute. Prof. Wickersham had a deep in-

terest in his work at Rose and has done much outside reading and study. He is the author of several books and it is probable that he will again take up writing after his retirement. We wish him the best of success in his new work.

Mrs. Sarah Peddle Burton.

Rose Polytechnic Institute was opened in March 1883 and in September of that year Mrs. Burton began her service which has been continuous to the present time. Mrs. Burton will take a long vacation after which she will make her home in Terre Haute where she was born. She will always have a lively interest in the Institute and its affairs.



THE ROSE TECHNIC.

Thirty-sixth Annual Commencement

of the

Rose Polytechnic Institute

June Sixteenth, Nineteen Hundred and Twenty

Programme

Marche Militaire..... Schbert-Best
 Organ..... DEAN ARMSTRONG

INVOCATION

REV. BUFORD W. TYLER

ALUMMI ADDRESS

Engineering Work in Relation to Business
 BRENT WILEY, '98, Pittsburgh

Andante, Allegro vivo..... Viotti
 Violin Duet..... BOYD GAUGH
 STANLEY ARCHIBALD

COMMENCEMENT ADDRESS

The Greater Obligations of Engineers
 ELWOOD HENDRICK

Consulting Editor of Chemical and Metallurgical Engineering
 President of The Chemists Club
 New York, City

Ave Maria..... Schubert
 Staendchen..... Schubert
 Violin Duet..... BOYD GAUGH
 STANLEY ARCHIBALD

PRESENTATION OF DIPLOMAS

WILLIAM C. BALL
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BENEDICTION

REV. MELVIN C. HUNT

Jour du Printemps..... Kimbal
 Organ..... DEAN ARMSTRONG

TITLES OF THESES PRESENTED

June, 1920

FOR THE ENGINEER DEGREE

John F. Robbins, B.S., '08,
Mechanical Lifts, Past and Present, and a New
Method for Their Balancing.

Claude E. Reese, B.S., '13, M.S., '16,
Going Value, in Valuation of Public Utilities.

Warren R. Spencer, B.S., '16; A.B., Indiana Univer-
sity, '12,
Arkansas Road Building and Road Building Ma-
terials.

FOR THE MASTER OF SCIENCE DEGREE

C. Owen Fairchild, B.S., '12,
High Temperature Pyrometry.

Alvin C. Rasmussen, B.S., '12,
Design of Steel Derricks.

FOR THE BACHELOR OF SCIENCE DEGREE

Frederick B. Ray,
Design of a Steam Power Plant.

T. ANDREW BROPHY,
Test of Wedge-shape Reinforced Concrete Beams.

C. Harold Exline,
An Experimental Study of Coal Mine Ventilation.

Harold P. Kremer,
Relocation of National Road at Reelsville, In-
diana, and Design of Bridge at New Crossing.

Walter L. Osmer,
Gordon K. Woodling,
Design of Dam and Hydro-Electric Power Plant
at Adamsboro, Indiana.

France E. Votaw,
Design of Steel Structure to Support Elevated
Sidetrack for Calumet Refrigerating Company,
Chicago, Illinois.

Harry E. Bierbaum,
Kenneth M. Huston,
Stuart G. Stimson,
Effect of Softened, Unsoftened and Mixed Water
on Locomotive Boilers.

George L. Brown,
Herbert B. Sliger,
An attempt to produce Barium Peroxide from a
Certain Barium Sulphate Ore.

Albert W. King,
James S. King,
An Investigation of a Direct Reading Calorimeter,
the Caloroptic.

Herman J. Lauterbach,
Donald C. Maxwell,
An Investigation of the Pickling of Iron.

Ronald C. Manson,
Rex J. Self,
An Investigation of the Methods of Removing
Enamel from Heavy Enamel Ware.

Norman A. Ruston,
Herman G. Schlaman,
John C. Zimmerman,
Investigation of a Mineral Deposit.

Arthur P. Woolfolk,
Clift W. Young,
An Investigation of the Properties of Magnesium
Oxychloride Cement.

William C. Bryan,
Frank M. Stone,
Design and Construction of Frequency Doubling
Transformers.

Jerome D. Farmer,
Whitcomb W. Moore,
Construction and Test of High Frequency Alter-
nator.

Frank N. Heubel,
Harold L. Kessler,
Arthur D. Orth,
Development and Tests of Electrical Laboratory
Equipment.

Frederick M. Pence,
Glenn N. Maxwell,
William H. Meadows, Jr.,
Special Testing and Development of the New
Electrical Laboratory.

Herbert Briggs, Jr.
Karl A. Froeb,
Efficiency Tests on Steam Power Units at the
Highland Iron & Steel Company.

Marion G. Flesher,
Robert J. Owen,
The Rate of Flame Propagation in Gas Engines,
through Various Mixtures of Different Gasolines.

Jacob F. Reinking,
Ferdinand W. Rolshausen,
Test on Carburetors for Uniform Mixture.

Frank L. Reinman,
The Advantages of Industrial Safety in a Large
Manufacturing Plant.

Paul J. Grafe,
Construction of Sub-Structure of Power House
at Marysville, Michigan.

BACHELOR OF SCIENCE:

ARCHITECTURAL ENGINEERING COURSE:

Frederick Bryan Ray.....Anderson

CIVIL ENGINEERING COURSE:

Thomas Andrew Brophy.....Terre Haute
Charles Harold Exline.....Sullivan
Paul John Grafe.....Terre Haute
Harold Pemberton Kremer.....Louisville, Ky.

THE ROSE TECHNIC

Walter La Rose Osmer.....Logansport
 France Edgar Votaw.....Mattoon, Ill.

CHEMICAL ENGINEERING COURSE:

Harry Ernest Bierbaum.....Sumner, Ia.
 George Lee Brown.....Terre Haute
 Kenneth Mayhlon Huston.....Terre Haute
 Albert William King.....Terre Haute
 James Sargent King.....Terre Haute
 Herman John Lauterbach.....Terre Haute
 Ronald Cornwall Manson.....Terre Haute
 Donald Clark Maxwell.....Terre Haute
 Norman Alexander Ruston.....Racine, Wis.
 Herman Gross Schlaman.....Terre Haute
 Rex Joseph Self.....Terre Haute
 Herbert Boyd Sliger.....Terre Haute
 Stuart Courtright Stimson.....Terre Haute
 Arthur Peter Woolfolk.....Louisville, Ky.
 Clift William Young.....Terre Haute
 John Charles Zimmerman.....Terre Haute

ELECTRICAL ENGINEERING COURSE:

William Calhoun Bryan.....Jeffersontown, Ky.
 Jerome Dooley Farmer.....Terre Haute
 Frank Nicholas Heubel.....Terre Haute
 Harold Link Kessler.....Terre Haute
 Glenn Nicholas Maxwell.....Terre Haute
 William Howard Meadows, Jr.....Terre Haute
 Whitcomb William Moore.....Terre Haute
 Arthur Delos Orth.....Terre Haute
 Frederick Melvin Pence.....Terre Haute
 Frank McCrary Stone.....New Orleans, La.

MECHANICAL ENGINEERING COURSE:

Herbert Briggs, Jr.....Terre Haute
 Marion George Flesher.....Terre Haute
 Karl Albert Froeb.....Terre Haute
 Robert John Owen.....Indianapolis
 Jacob Ferdinand Reinking.....Terre Haute
 Frank Leo Reinmann.....Peoria, Ill.
 Ferdinand William Rolshausen.....Logansport



HONORS AWARDED.

The thirty-second award of the Hemingway gold medal, for the highest standing throughout the entire course, was made to Charles Harold Exline of Sullivan, Ind.

The bronze medal, offered for the highest standing in the freshman year, was awarded to James E. Albright of Terre Haute.

Honorable mention was made as follows:

Senior Class—

Arthur P. Woolfolk, Louisville, Ky.
Frederick B. Ray, Anderson, Ind.

Junior Class—

William H. Bruning, Indianapolis, Ind.
Sidney Reibel, Terre Haute, Ind.
George R. Armstrong, Terre Haute, Ind.

Sophomore Class—

R. Lee Henderson, Terre Haute, Ind.
Owen E. Conover, Terre Haute, Ind.
Kenneth L. DeBlois, Chicago, Ill.
Carl B. Wilson, Roseville, Ohio.
Donald C. Wamsley, Chicago, Ill.

Freshman Class—

Clyde G. Raeber, Terre Haute, Ind.
Harold H. Johnson, Terre Haute, Ind.
Oliver W. Neukom, Terre Haute, Ind.
J. Russell Snyder, Terre Haute, Ind.
Edmund E. Dunlap, Terre Haute, Ind.
Charles E. Daniels, Savannah, Ga.

The Greater Obligations of Engineers

Commencement Address

By ELLWOOD HENDRICK

Consulting Editor Chemical and Metallurgical Engineering Magazine.

President of Chemistry Club, New York.

This, gentlemen, is the time and the hour when it behooves us to think of how we are to bite into life.

We consume a great deal in the business of living, and if we do not contribute more than we have devoured, we become human mistakes. Whatever efforts our parents may have made to establish us become mere folly, whatever we have done to get ready for a career,—the hard study, the diligence, the struggle to understand, becomes but a preliminary part of the injury we do to society if we waste its substance, which is the estate of the people, the while we fail to serve. There's no reason why we should not do well for ourselves, provided always we contribute abundantly to the general welfare. But we must leave a plus sign to indicate our honest work in every job. Mistakes are never excused. In baseball parlance, mistakes are strikes and the number of them allowed to us is limited. On the other hand, negative results in research are not mistakes; they are contributions to human knowledge.

In medieval and renaissance days the master craftsman learned his trade, beginning as an apprentice, and he rose to design and to command by wit and ingenuity. The method had its merits. There's no use in thinking that because we live today we are wiser. In many respects we have gone backwards, and it may be worth while to consider this as we proceed. But before doing so let us bear in mind that the conditions of today are those that we must meet and that it is no excuse for failure to declare that we are born out of our time.

Among present-day conditions is the fact that engineering has become a learned profession. We may say this with no disrespect to Leonard da Vinci, whose like has not been known since. The great body of renaissance engineers were crafts men; those of today

are industrial physicists. As such they must be men of learning in science, and as men of learning, engineers have acquired what we call "class," which is no less than a quality of caste. The engineering profession occupies a definite stratum in the order of human occupations.

We must have a care in considering this feature because it is by the wrong concept of class that the greater part of humanity has wallowed in error throughout all times and generations. And most of us are susceptible to this error, which consists, as everybody knows, in an exaggerated concept of class rights and the neglect of class obligations. We have shining examples of it on every hand. It does us no harm to serve and to give, but when the rewards come in we are likely to strike our saturation point, and then we think we held more merit and worth in solution than analysis of us will show. The trouble is we can't make this test ourselves, although the casual passerby can do so with ease. There's a famous old verse that is always worth remembering, which reads:

What I gave, I have;

What I spent, I had;

What I kept, I lost,—

but we forget it. Some of us strike our saturation point in dollars, others owe it to power and authority, but it is always an unfortunate condition. As soon as we reach it, our mental vision becomes defective and we see nearly all of our fellow men as singularly small and unimportant. Now they are not small and unimportant; they merely seem so to us because of our crippled vision. Since, on reaching this dolorous state of super-saturation, we lose, not only our capacity to see in true focus but also our sense of humor, it may be that some wise psychologist will devise a method of determining the specific

human gravity of each of us and thus tell the world, if we will not listen and heed, whenever our saturation point has been reached. That would be as great a contribution to human advancement as would be the instruction to use our noses with the same intelligence that we apply to the use of our eyes and ears.

Yes, we must live in our own day and generation, and despite the boasting of shallow men, there is a great darkness which still prevails. And it is our particular business to contribute illumination and order.

What I have tried to bring out thus far is that engineering is a learned profession, that whoever enters it, takes upon himself the distinction of learning and scholarship, and that as such he belongs to the limited number of men who have achieved what is known as the higher learning. The establishments that provide this higher learning, such as the Rose Polytechnic Institute, were built and designed for those with exceptional gifts; to equip exceptional men to improve the general welfare of the American people. Your own profits and fortunes were not, are not and never will be the real purpose of this institution that gives you distinction as members of the great body of American engineers; it is the services for the benefit of the whole people that are hoped for as your future contributions; as the plus sign on the record expected of each and every one.

Now, recognizing ourselves as men of intellectual attainments let us wander along for a little through the open fields that are outside the main travelled roads of convention. I can not do better than to recommend to you in this connection a book called "Folkways," by the late Professor William G. Sumner of Yale. It consists in a series of lectures, didactically expressed, rather hastily put together and not exactly what may be called easy reading. It is best to take it rather deliberately, for a few pages are usually enough for a day's or an evening's mental digestion. But it tells better than any other work I have ever read of the shackles of thought we all wear, because some generation before us has reached conclusions which we adopt as final and binding upon us without so much as asking the reason why. It is also a very profitable book because it gives us patience and sympathy with those who do not think as we do.

Among the traditions with which our Puri-

tan forefathers endowed us is the convention that righteousness is sad. We make all sorts of jokes about it and also in conformity with the custom, many melancholy persons of good intent draw long faces and succeed in the end in making the paths of well-doing unpleasant, rather than in inducing men and women to enter upon them. But if, as intellectual men, we have trained our minds to respond to the long view that sees beyond conventions, then we are likely to keep ourselves free from stupid reactions against the moral sourbellies who would rob us of all of our joys. We do not have to oppose them in every respect to be different from them. We can let them wail out their own salvation and go their way groaning without letting them direct our steps for us. Any one who would go to the devil for the mere reason that some one who offends him is not going along that path has too weak a mind for the responsibilities of professional life.

Several years before the great war a famous German professor of physics visited at the seashore a much younger American colleague of the John Hopkins faculty. Both were brilliant in research, and the old gentleman and I had a little discussion on methods of work. "I can't understand it," said he. "I work at a problem with all diligence until I have it solved and then I publish my results, but it is all hard work. My friend here works just as hard as I do, but he takes it as a sport. He brings the quality of youth to it and he has a grand time over it. It seems all play to him." "It was only last week," I answered, "that he told me he thought it good sport to get a rod and reel and whip a stream for trout or to take a dog and a gun into the woods, but that anybody could do it. 'We fellows in science,' he continued, 'have a chance at bigger game that nobody else can reach, and to bring this down is still better sport.'" But the old man had never known sport, he could not whip a stream or shoot and his youth had long since departed from him. He could not understand. Now, I pray you to take your work as a great game in which you are entered, and to play it according to the rules. The rules of the game are conventions, but so long as the other players observe them we cannot overlook them and be honest.

You have youth, and it is not of record that you have been negligent of sport. An the

chances are that most of you have in the back of your heads some particular thing you really want to do. Then I pray you to go to it! What you want to do is your job. Don't be afraid to dig in, and remember, even if the results are negative, that that, too, is a contribution. Do you remember Stevenson's *Virginibus Puerisque*? "If you want to go up in a balloon," he says, "in God's name go now! In a little while you will not want to go any more, and then you will have lost the experience for all time." It may not make much difference to an old man's friends whether he has ever been up in a balloon or not, but it may make a great difference to him. And he is the interested party. If you want experience go and get it right away, provided only you can do so with a good conscience.

Now let us take up the question of the manner and the measure in which we have been backsliders since medieval and renaissance days.

In some respects many of their methods seem pretty raw to us, but in other respects we are behind them rather than ahead; and as engineers responsible for the structure and organization of things to come I think we should make comparisons and bear our present day defeats in mind.

They had a better general sense of art than we have. Nearly every piece of handiwork that comes from those times has a distinct quality of beauty.

Of course we can satisfy ourselves by saying that we construct for utility and that we have no interest in beauty of design; that we are after quantity production and that therein lies the whole of our interest. The trouble is, we do say this very thing and when we say it we show our poverty of imagination as well as a quality of ruthless inhumanity that is not unlike the worst feature of the German philosophy of conquest. Whenever we introduce beauty of design into construction we introduce a factor which increases the pleasantness of life, while whenever we neglect it we are not even raising a finger to avoid the ugliness, the dullness and the weariness of work.

The key to the future is pleasure in work. I hardly know how to put enough emphasis upon this point. Unless men have a good time at work their play will be crude and childish. Work that stupefies men injures

them and causes them to degenerate. It spoils the breed. In medieval days bondmen and serfs had greater variety of employment than we provide for free men and women who work at machines. I ask you honestly what the advantage is in an industrial establishment employing ten thousand persons, if while adding to the wealth of the country, it cripples the minds of those who work. Good wages do not pay for sour lives, because crippled minds and sour and sordid lives spoil the breed—at least for a generation or so. And the breed makes or destroys the republic. It is one of the leading obligations of engineers to see to it that men at work do not degenerate. They can not shift this duty to men in administration because, as we shall soon see, administrators are specialists, selected for a single talent,—and there are not enough of them to go round.

Before the advent of machinery work was more individual than it is today. White men used to sing at their daily toil. They do not want to sing any more, and that is not a good sign.

We are still going through the misery of incomplete machinery, the use of machinery that is inadequately automatic. This is the source of most of our discontent; men and women are employed, not to use machinery as tools, but to fill in the gaps of inadequate engineering that should have designed apparatus more completely automatic. Merely to fill in the gaps of work that should be accomplished by a machine is too dull, too tiresome, too monotonous for any man who has all his wits. If I had to feed a printing press all day for eight or ten hours I know I should grow morose and so would any of you. No kind of pay can make the work interesting because it is not a real man's job. There is considerable propaganda abroad to the effect that high pay will make good the difference between work that makes men stupid and uses up initiative and that which involves the use of machinery as tools. I doubt it. Let me make this a little clearer; it is a man's job to operate a machine and to direct it unto production. Whether it is interesting or not is his affair. He can make it so. This is not what I have in mind. I refer to the kind of work that demands no intelligence, that consists in merely filling in gaps in mechanical processes because engineers thus far have not had the wit to devise satisfac-

tory apparatus for the purpose. Let us note two examples that indicate the difference. The control of automatic feeders of liquid fuel on a steamship is a man's job. It requires intelligence and attention. There is no occasion to be ashamed of it. Stoking coal on a steamship on the other hand is hot, wearing, undesirable, and we have yet to learn of happy and cheerful stokers who are at once intelligent and satisfied with their work. In some way or other that task should be accomplished by machinery, although no automatic stoker known seems to do it well. What is needed is a solution of the discontent among marine stokers by the invention of machinery that will drive them out of business. This is not cruelty; it is social surgery. They may not want to work on farms or in the open where conditions are better, but if they have not the wit to find better work than stoking, they probably have not the intelligence to exercise wisdom in the selection of any job. Engineers must do a great deal of thinking and planning for others, and the others include all sorts and conditions of men.

It is a matter of prime importance to organize work unto contentment and even happiness for those that participate in it. This must be done to avoid misery all around and a bad name for the engineer that lays out the plant or operates the works.

So despite galley slaves and visitations of the plague and ships that traveled mostly sideways and stage coaches for speedy travel, we find that the people of medieval days and of the renaissance had a better and broader conception of art than we and that the free workers appeared to be happier than those of our time. We must catch up with those that have gone before in these respects and it is the task of engineers to tell us how.

It is not very long since that the practical business man was supreme in industry. He belonged to a body of men of whom some are no less than men of genius while others are dreadful fellows. There is a curious feature in regard to that quality of administrative ability that leads to success. It may be heredity, but if it is, the law of Mendel does not limit the factors, and this ability does not descend in a direct line. There is no Salic law to govern it. The gift of red hair is easy to trace in comparison with it. Some of us

have it, but most of us lack it. It is supposed to be present in eminently successful business men. If we were all Presbyterians and really did believe in foreordination and predestination we should have difficulty in attributing to the allotment of this gift of administrative ability among men the exercise of divine wisdom. We find it in the highest types of humanity and also in men of the most sinister disposition. It bears no relation to ethics. Some men who direct great affairs are of the best and noblest of mankind and others are too mean for any decent society. Some belong in jail and would surely be there if their abilities were not needed in directing affairs; for this very talent of competent administration is the scarcest quality known among men. The lack of it is the principal cause of the failure of industrial enterprises.

As members of a learned profession you are required to deal with this heterogeneous body. One frequently hears a man say, "I can hire all the engineers I want. And I want 'em to do as I tell 'em to do!" Now there is one situation that a person of that sort does not know how to meet. He becomes confused and loses his authority in the presence of his superiors in culture and in bearing. He is sharp as a needle to discover a bluff; bluffing is his greatest asset in manner; but in the presence of superior quality he wilts. This superior quality is reached by reading and study, by profitable contact with others of good breeding and by the consciousness of high professional standing. Engineers need it in negotiation and in reporting, and they must have it if they would gain authority and distinction.

We human animals are curious creatures. We have five senses and educate but two: sight and hearing. I say we and the pronoun includes substantially all of us, so there is no profit in considering our fellow men with scorn, because we know so little ourselves that our only reasonable attitude is one of humility. Our point of difference from men of less learning is that we are in debt. Institutions of learning have been established at great cost and effort and we have availed ourselves of their privileges. Tuition fees are a mere bagatelle compared with the actual costs. We cannot pay the debt back in any other coin than service, and, as I have already indicated, it is service that counts.

One of the loveliest things in this world is

human faith. Most men are honest and most men believe in something. They will believe of us what we tell them. Of course we can't go around telling crass lies about ourselves and succeed with it for any length of time. It is much easier to lie about somebody else than about ourselves. But what we really believe carries. Therefore what you believe and say about your profession will be generally believed, provided your faith represents your own ideals.

Now of your profession you can take the high view or the low one. The low one is that you are no more than mechanics or pipe-fitters with a little theory to help you succeed. This makes you instruments of the will of others to do whatever is desired of you for the pay involved. You can get along that way and make a living out of it. It may make you rich. Of course, one needs to know the English language well enough to make a report, although there are engineers without education enough to do even this. It means a commonplace sort of life, no matter whether it pays well or ill, and of course it is bound to lack distinction. It makes engineering degenerate from a profession to a trade,—and while trade is an honorable calling, it is a sorry substitute for engineering.

We are living in parious times. Anarchy is rampant. The difference between Anarchy and Law and Order is in the leaders, for the people always follow. In Anarchy the leaders have a sense of victory that is achieved by the flow of blood and the production of corpses. Emotion is substituted for thought and deliberation. Under anarchy we revert to the ways of the jungle, without even the rules that prevail among beasts. Under Law and Order we establish rules of the game and conform to them. When we want to change them we do so in peace.

Now anarchy is usually born of industry gone wrong. Please remember this. Engineers above all others are responsible for the planning and ordering of industry. If we come through this trying age without permitting the powers of death and disorder to gain control, it will be largely because of good ordering and planning of industries. The responsibility for this rests principally with engineers. Therefore it will be flippant and even criminal neglect for engineers to take their profession other than seriously. The cultural requirement of engineers is very

high because it involves a working understanding of human ways. You, gentlemen, by virtue of your profession, are our prospective leaders. You bear a great weight of responsibility. This may not be evident in your immediate work as you take up the first opportunities for practise that you find, but the day of choosing will soon be at hand. And the choosing will not be sudden or according to a momentary whim or fancy. It will be according, in the case of each one, to the man that you are. We live in a beautiful world that is beset with difficulties, difficulties so great and so multifold that we need to stand up straight and to strive mightily, with faith in our hearts, if we would meet our obligations as men who play fair, without dodging, so that it may not be said of us that we are short sports in this game of living. And we may as well be cheerful over it, because we are so constructed that we cannot prosper well in gloom.

We have pointed out the frequent lack of beauty in our work, the incompleteness of machinery, the heavy, aching stupidity of the tasks we often provide for our fellow men. These fields call for immediate improvement. But there are other things to do. It has been said that if industry continues to weaken agriculture by taking farm laborers from the farm, we shall soon be in the position of England and Germany before the war, seeking food and raiment outside of our own country in competiiton with other industrial nations, maintaining a great navy to keep open the seas to bring in our goods, and always quarreling with our neighbors for sources of supply. The situation of the United States in competition with other nations seeking food and raiment beyond our borders is one that we must avoid if we would live at peace in the world. Farming must continue and we will not endure slavery. The present situation is that men and women will not work on farms and those that do, produce inadequate yields. We do not fertilize sufficiently or intelligently, we do not plant as we should, or with proper knowledge of conditions, and harvesting is often impossible. Owing to small units of production there is such complexity of distribution that an unbearable tax has arisen between the producer and the consumer. All this may be avoided if agriculture thrives as it should. We must see, therefore, if we take the long view, as

behooves men of the larger understanding, the need to keep agriculture in balance with industry so that we may provide for our own food and clothing. Farming must be made as desirable and as profitable as industry.

In response to this I venture another opinion that may get me into trouble, because it is contrary to tradition. The belief in general is that the agricultural welfare of a nation depends upon the maintenance of a large number of small farms operated by their owners. This is contrary to the mores, to the folkways of our day. Why do men and women leave the farm? The distinctive quality of our generation of humanity is gregariousness. Men and women want to be together, to live in large groups, and to have entertainment in their leisure. They want to see other persons, to gossip, to see shop windows, moving pictures; they have become fearful of loneliness. We need not enter into the philosophy of this; it is a fact.

If we were to apply Boyle's law in relation to gases to those colloidal aggregates called human beings, we should look for the pressure that causes them, in association, to decrease in volume; to live near each other rather than separately. This gregariousness is not new in history, and we should be wiser if we examined the cause of it as well as the phenomenon itself. In other words we need physical chemistry in the study of persons in the mass as well as we do in the study of simpler bodies.

The speculative hazard of the small farmer is very great, and he wants a more assured income. He knows that the art of administration is a difficult one, and while he may not care to confess it, the fact remains that it is often too much for him. The reason he hesitates to confess it is because our tradition is wrong; we have been trained to regard the man who bosses the job as in some way more capable, more able and of better mental equipment than the man who does the work. This is wholly false in art; and living itself is an art. But we have already discussed the rarity of this peculiar ability—I mean administrative ability—and noted that it may be present in persons who lack other characteristics which the best of us desire in our fellows.

Given competent administrative ability and scientific understanding, as well as adequate engineering, and farming may be carried on

as a great, co-ordinated industry with good housing conditions, medical attendance, amusements and transportation to and from work. Men engaged in agriculture demand a better and less lonesome order of living, whether they be laborers or administrators, than they find today. The man of ability can find his place and his chance to exercise it is better in a great corporation properly managed than it is if he has everything to do on a small farm. The problem of harvesting is again a matter of transportation and housing of the extra men needed. There will always be those who like to wander and if companies of men are organized to build roads, to work whenever extra men are needed, and can be comfortably transported and cared for, the problem of harvesting will present no insuperable difficulty.

It may seem better that a man should work for himself and mind his own business than to work for a firm or a corporation, but as society develops we find ourselves more and more dependent upon one another. The man who works for a corporation is also independent and he can better invest his savings in the corporate stock of a well-managed company for which he works than he can in live stock for his own farm which he mismanages.

It is engineers who will be called upon to solve the industrial organization of farming. It is an engineer's task to co-ordinate the various factors unto production. As soon as this is properly done I believe men and women will go back to the land of their own desire. Of course the task is difficult, but it is not insurmountable. It was impossible to make a fortune by selling little trinkets and wares for 5 and 10 cents apiece until somebody did it. It was impossible to do a decent mail order business until character and ability were brought to the task. It used to be an humble and lowly task to boil soap but the soap manufacturers of the day seem to prosper. It takes thought and calculation and the vision of a great engineer to establish industrial farming as it should be; but success follows the right, the wholesome and the intensive use of brains. It is bound to be unpopular at first because it is contrary to the mores of our day; but with it I believe we shall find a new fertility in, and a new contentment on, the soil of our blessed land. You, gentlemen, have the opportunity to lead in this.

What we need to meet these difficult tasks

is quality, always quality; and it is the quality of engineers in the highest sense that I would bring to your notice. That you be men of high ideals, taking the long view in regard to your profession, that you seek and find the delectable gardens of the mind that are known only to those who live in the illumination that responds to earnest thinking, is

what I urge upon you in parting.

Professor Tyndall had a Scotch servant who rapped upon his door every morning and called him with these words: "Arise, sir, arise, 'tis 7 o'clock and ye have a great work to do this day."

We have, indeed, a great work to do!

Engineering Work In Relation To Business

ALUMNI ADDRESS

Brent Wiley, '98.

Members of the Class of 1920, Members of the Board and Faculty of the Institute and other friends, the Alumni of Rose extend to the graduates a hearty welcome of fellowship and can assure you that this busy country will gladly stop to give you a cordial greeting when you have signified your desire to help solve its many problems.

I wish that I knew just what subject you would prefer to have discussed and what would be of most value to you, but I can only make assumptions. I am glad of the opportunity to give you an outline of some of the principal phases of industrial work and of the present business conditions and I hope, offer a few suggestions that will assist you in getting established and help in your future work.

No doubt the majority of you have already decided upon your initial program of work and many are identified with some industrial activity, but it is probable that some of you are still undecided regarding your course. The question that is most common to the prospective graduate is—what line of work offers the greatest opportunities and for what is he best fitted. The prescribed course in which the student has specialized answers these questions to a general degree but leaves him undecided regarding the exact details of the situation. The student has a limited opportunity to analyze the subject intelligently, for he has little knowledge of conditions and requirements in various lines of work or chance to investigate same. As a consequence he is often delayed in determining the line of work he desires to follow and his efficiency is not established for a considerable period after he is out of college. The lost motion as it were, has been recognized by the colleges and the

large industries for some time and definite plans have been made to improve the condition. Proper courses for the student will be prepared and means provided for giving him the most practical training and, in addition, he will get the benefit of an early and comprehensive study of the situation.

The next step is the field work, such as manufacturing, installation, operation and maintenance of apparatus and it is of great importance that the student give particular attention to his first five years experience and program his course the proper sequence. It is in the early part of your career that you will have the best opportunity to investigate the actual working of different branches of a company's activities and become thoroughly acquainted with the fundamental principles and requirements; this can best be obtained by actual experience. Some of this work means manual labor under conditions that are somewhat in contrast with office work and the direct remuneration may be less than desired, but such a course is essential for real, first-hand knowledge and gives one a good foundation in his work. It is best to finish the "rough" work first because one is prone to fall a victim to "ease" and as time goes on we are less inclined to devote our experience to the actual field demonstrations. I have never known a case where a procedure as suggested above has not been considered of great value by the engineer and he has acknowledged that unless he had selected the practical experience early in his work, it is very probable that he never would have secured it.

I wish to discuss with you in particular the relation engineering has to business and the subject on the co-operation between colleges

and industries as discussed above, deals directly with this point.

To conserve our natural resources, constructive engineering is essential in obtaining of the raw material, its transportation, conversion into a finished product and its distribution to the user. In the industrial world we have been prone to consider that the manufacturing operation warrants the large percentage of effort, skill and supervision but today we are confronted with the condition that one of the greatest problems of our country's business is the distribution of products. By distribution is meant the proper serving of the trade and it embodies much more than merely transportation. It includes first an analysis of the demands—present and future—also the proper utilization of the product, method of keeping in close touch with the trade and means of insuring prompt deliveries in quantities satisfactory to the user. While the manufacturing is largely technical in nature and the distribution deals principally with commercial matters, the two are so inter-dependent that the engineer is directly concerned with every phase of the company's business.

A concrete example will probably give you a better idea to what extent commercial matters become a part of the engineer's responsibilities. I will refer to an industrial plant which produces electrical apparatus. The graduate student has the opportunity to choose one of three lines of work, one being shop management—designing or application—engineering work or commercial work. It is not sufficient, however, that the student specialize in one line of work for his responsibilities make it necessary that he have a very comprehensive appreciation of the requirements of the other departments, and be in position to co-operate closely with them. The engineering department is not only responsible for the sufficiency and efficiency of design, but must understand the conditions of other industries and their detail requirements regarding electrical machinery so that proper apparatus is selected and the most effective results obtained. This requires an intimate knowledge of the processes of such industries and a thorough determination of the best methods of operation. Electric drive offers the unique advantage of easy and accurate measurements of power for short and long intervals and the electrical engineer has,

by virtue of his ability to make a complete analysis and to obtain a better understanding of requirements, gained prominence in the management of many industrial companies.

The application engineer is responsible for the specifications furnished the designing engineer and forms, as it were, the tie between the commercial and production departments. Sales work of the principal industries is under the supervision of men acquainted with the operation of the plants and who are well qualified to act as application engineers, except in special cases, where detail investigations are advisable. The problems of the industries served are studied and every effort is made to assist them in overcoming their limitations. The electrification of our principal industries, such as steel and textile plants, has undoubtedly been of first importance in making possible the present high state of efficiency.

A recent development as applied to the paper industry emphasizes the business study made of industries. During the war period and since, there has been a pronounced shortage of paper. By a new design of sectional individual motor drive for paper machines and the provision of control for automatic speed regulation, the output of the mills can be increased materially, operating costs, maintenance and supervision greatly reduced and the overall efficiency of the plant bettered. This one improvement will mean a new era in paper manufacturing, though obviously it cannot happen in a day but will come as new mill machinery is added and as old machines are re-built.

These examples are evidence that the designing engineer, the shop management and the application engineer are not interested alone in the production of electrical machinery, but are also directly concerned with the economic results as obtained by the use of the apparatus and naturally this co-operation with other industries identifies them closely with the business interests of the country.

The primary duty of the commercial department is to provide for the proper distribution of the company's product and otherwise render the customer satisfactory service. His needs for the future must be studied and plans made to meet the demand. Many of the industries of the country are growing to exceedingly large capacity, requiring definite plans for a long period future to assist in overcoming the handicaps of inertia, as

are occasioned by a complex organization and ever-increasing problems of distribution. It is the responsibility of the sales department to formulate the future requirements of the trade and the effectiveness of the production and general success of the company are today largely dependent upon the ability of the management to prepare a future program as prescribed by a well-founded estimate of several future years' demand. This responsibility is a broad one and requires a careful analysis of every phase of the country's business. As a result of this business engineering, definite and detailed specifications are developed as a guide for all departments, providing ample time for each phase of the work and permitting it to be conducted under the most favorable conditions and much more is accomplished by following a program of preparedness.

I am strongly of the opinion that the effectiveness of engineering work is largely dependent on the degree to which it is associated directly with our country's business, our matters of government and public affairs in general. It is within the ability of the engineer to give valuable assistance in the solving of the country's problems and much is to be lost if the engineer does not measure up to this duty with interest and effort. Seemingly, there is not much doubt that the engineering profession is in hearty sympathy with this idea and have agreed that the democratic principles its practice follows are tending to greatly broaden the possibilities of engineering success.

In practice today the several branches of engineering are fast becoming more closely associated and related. We find in practically all of the large cities that the various engineering societies—mechanical, chemical, electrical and civil and others have joined together to form a general engineering organization. The principal idea is that the broader and more important subjects to be discussed are of most interest. The individual societies are only useful insofar as they are able to contribute to the proper analysis of these mutual and main problems and assist in executing the solution. As a result there is a better appreciation in engineering work regarding the responsibilities and business principles that warrant the close co-operation of the various branches.

The March issue of the proceedings of the

American Institute of Electrical Engineers contains an unusual article on the "Economic Supply of Electric Power for the Industries and Railroads of the Northeast-Atlantic Seaboard," by W. S. Murray. The scope of this subject makes it of national importance embracing, not only the interest of a large area of communities and business interests, but also the direct interest of practically every branch of engineering.

Briefly, the article outlines the possibilities of a series of large electric power stations with a net work of power lines to provide the motive power for a section from Boston to Washington and about one hundred and twenty-five miles wide. The proposed plan seems feasible and offers a great many important advantages.

Naturally, the electrical engineer is vitally interested, also the mechanical engineer who plans for the utilization of the motive power. The civil engineer and all other branches will be interested because of the subject of motive power is of first importance to every branch of our industries. The railroads will be interested for such an improved power plan not only offers a partial solution to the serious problems of proper facilities for transportation and distribution of fuel, but it means wonderful improvement in the type of railroad motive power. In other words, the subject of motive power as supplied in large blocks and distributed over wide areas, is a democratic and national subject and must be studied from this standpoint. It would not be practical or wise for a plan of this scope to be restricted to the attention of the electrical engineers alone, for the most beneficial design of power system could not be accomplished. His work must be in close harmony with other engineering phases of the project.

In the first place the real problems, limitations, defects, etc. of the present system of motive power as included in the district must be established, or in other words, the things to be accomplished are first to be decided upon. It is an old saying that one's problems, well outlined and defined, are half solved. Certainly the several branches of engineering working together could much more definitely establish the value of such a broad subject, than could the electrical engineers alone. They, as a body, or the electrical engineers working directly with them, should prepare the specifications regarding conditions and re-

quirements to be met and the electrical engineer will design, build and install the necessary apparatus and will assist the other branches of engineering, as far as possible, in the most advantageous application of the electric motive power.

A number of splendid articles have been written by prominent men regarding the advisability of the engineer becoming more closely identified with the affairs of our Government. In these times of complex conditions it is more essential than ever that some real engineering ability be available for designing and executing real constructive measures. It is thus evident that the engineer must accept it as his duty to study and interest himself in business, public, and national affairs, as his principal work directly affects each.

A reference to our present business conditions will indicate a few of the problems that should occupy the attention of the engineer. Two facts are apparent: There is a decided shortage of commodities in relation to demand and there are about two dollars in business today where there really ought to be one. The inflation throughout the world regarding the expansion of currency was as follows, Sept. 1, 1919:

United States.....	171 per cent
United Kingdom.....	244 per cent
Germany	875 per cent

In the case of our country economists tell us that this is a direct result of our war debt and that the method of providing the necessary funds has encouraged what now is acknowledged to be undue extravagance by the industries and other commercial companies.

The vicious whirl of the repeated increase in prices of commodities and wages has resulted in a decided decrease in the satisfaction of both the employer and employee. It is urgent that steps be taken to restore confidence between capital and labor and thereby insure a proper respect for the responsibilities and a conscientious fulfillment of obligations.

There has been for some time an enormous demand for the production of industries and in addition to the pyramiding of prices and wages, there has been a large increase in capital invested in expansion of plants and raw materials. In spite of the large volume of orders on hand and business possibilities, the production has not been forthcoming be-

cause strikes, a seeming let-down in individual effort and restrictions in materials and transportation facilities have slowed down the output of every industry greatly. During the past several weeks the railroad situation has been very serious and with the terminal stations congested with loaded cars and a very limited movement of freight anywhere, a dangerous unbalanced condition in the factories prevails. The work in progress is out of proportion to a favorable manufacturing schedule, as a large portion has to be put aside in a partially finished state, due to lack of materials and apparatus that is finished, cannot be forwarded. The industries are burdened with excessive costs and other handicaps which will tend to impair their future success.

During the past year the credit of various institutions has fast been reaching a dangerous point, largely because of the unusual business risk which these unfavorable conditions presented.

These enforced limitations have sobered the opinions of the business world and will naturally bring about a more conservative future policy and the conditions which now seem a hardship to the industries and to us as individuals will probably prove a blessing by being the very agent which will accomplish a re-adjustment of affairs by a reasonable method and relieve us of the burden of a panic.

There are two methods to bring about this deflation; one by producing enough more goods to balance the excessive amount of existing credit and the second by contracting the amount of out-standing credit sufficiently to balance with the current rate of production; seemingly, both methods will have to be used. We at least know that the demand of this country for commodities is far beyond our ability to produce. In the electrical business the yearly demand of the textile trade has increased from 100,000 motor horsepower (average 1914 to 1919) to more than 200,000 horsepower at present, and during the same period the yearly demand for motors for the steel industry has increased fifty percent. These are only indications of the demands of other industries. This demand is real and urgent for it affects the economy of operation of the plants and is necessary for their growth.

It is the engineer who must devise more

improved and economic methods for increasing production and I am sure that you will agree with me that he must be more than a designing engineer, more than a factory man, salesman or business man to accomplish this; he must be a splendid combination of them all.

No doubt these several references to the duties and responsibilities of an engineer and our present business conditions may sound a bit serious, but you will soon be confronted with the duty of just what your job really is and, unless you establish a definite premise on this question, you will not be able to work

efficiently. It has been the purpose of my remarks to suggest to you some of the more important things that you should consider in analyzing the responsibilities of your position. As students of "Rose" I am sure that you all are willing and anxious to give your best service and will be guided by the broader principles of business and life and as the broader man, you will closely guard your opportunities to show the public that the engineering profession fully warrants the confidence and trust which it has gained.

I wish you all the greatest of success.

Presentation Address

WILLIAM C. BALL

Ladies and Gentlemen, and especially the Class of 1920:

My part in this program is a very modest one, and that is to distribute you these diplomas. They are not a gift, because they are yours by right of service in the school.

I can't forego the opportunity to say a word to you young men going out from the school. My heart goes out with you young men on entering this great, big, beautiful world—that is what it is, boys, the finest world that I ever saw, and it needs you now more than it ever did in the past. Much of the results of past endeavors to add to the comfort and beauty of this world has been thrown to the winds in a fit of madness, and you are entering into a world that needs the services of you young men as engineers to rebuild the things destroyed and create new things for the general welfare. We do not expect that you will take positions in the forefront rank at once, but you will begin modestly and work your way through, and what you get will be just that you deserve, for the world pays its bill for honest service honestly rendered.

The things you do in taking care of yourselves—that is your chief business in the next few years to come—will add to the sum of human happiness and help others, and it should be your thought that in helping yourselves you will help others to more pleasant and happier lives, to reach results quicker, and that is a good thing, that you can aid the world when it needs you.

Though we took in a larger number of you boys than are going out, that does not mean discredit to the boys who dropped out. The pitfalls, traps and contrivances the gentlemen of the Faculty put along the course were intended to test your diligence, and it is a good thing some of the boys dropped out—it does not mean that they lack ability but in this particular line. As much as the world needs engineers, it would be a pity if all had talents to be engineers, for there are other things that need to be done by doctors and lawyers, and other busy people.

You are welcomed into this big world. I suppose that few of you have ever been voters. You are now become citizens, with great duties, and you must take them up with a

smile on your faces, but seriously too, for the world is in trouble through the failure of government, and you must not permit the fruits of your labor to be destroyed through misgovernment. Among other heritages of the war is the vicious ascending spiral of higher prices for commodities and personal service. The Lord only knows where it is going to end. Into this hurly-burly world you are thrust. Take part in its affairs, and its government. Don't be hidebound about it, but belong to some political party; I will not tell you what party, for I have difficulties in knowing where I stand myself, but belong to some; take an intelligent interest and find out what should be done; go to the primaries; and try to remedy things that should be remedied.

I can't add anything to the splendid addresses you have heard; that of Mr. Wiley, of the class of '98, who has gone out and won his spurs and come back to say a word of advice to you; and the splendid advice of Mr. Hendrick, covering so wide and rich a field.

One thing Mr. Hendrick said about work and the happiness we should find in it reminds me of the story about Sisyphus in Sir Edward Bulwer-Lytton's book, "The Lost Tales of Miletus." Sisyphus was a sharp trader in the dim distant past in Greece. As a dealer he knew what any chump knows, that the way to make money is to buy cheap and sell dear, but the question came in, when are things cheap and when dear so to know when to buy and sell, and he developed an uncanny faculty in this direction. He accumulated a lot of money by buying when prices were low and selling when they advanced, and the people said that he skinned them and raised a great clamor. The complaints were so loud that they reached Zeus on his throne on Olympus, who sent down a messenger, Mercury, to find out about it. Mercury came back with his report, and Zeus sent Death, a visible presence, down to remove Sisyphus. Sisyphus, when warned of the coming of death, fixed up for his arrival (he must have had an engineer, from some Polytechnic of that dim and distant past) and prepared a chair so that by pressing a button the arms moved

in and imprisoned the person in the chair. Death came, and was invited by Sisyphus to take the chair, which he did, and when the wine was poured out the spring was touched and Death found himself bound in this chair and couldn't perform what he went there to do. Death was held a prisoner for a long time, and curious things happened in the world. The people found that Death was not at large, had no fear in consequence, and they did what they pleased. The result was that things got in a terrible mess, and the news came to Zeus, who had Death released. Sisyphus then was taken across the River Styx where there were three judges to pass sentence on him, and they decreed that he should roll a huge stone up a large hill, beyond the top of which was the Elysian Fields. Sisyphus would toil up the hill with the stone, but when the stone was almost ready to settle in the socket at the top of the hill it would bound away and roll down again, thus the task was never-ending. Some inquisitive visitor asked him about it. Sisyphus said that he had tricked the judges. "They gave me this work to do for torture, but I have found that work is joy. I have eternal work to do, and, best of all, I have eternal hope."

Then, young men, play the game, for life is a game, with fixed rules. Play it as you have played football—buck the line, and buck it hard. In a football game I have seen a gentleman grab another gentleman by the

leg and pull him down. In this greater game you will find that men will grab your leg and try to pull you down. Keep your mind on your goal, and keep a high heart in the cause of humanity, and a high hope, because your service is needed. Mind you, the captains of industry who are searching for men for positions are not going to take you for the value of the Rose diploma, what they are going to require is service, and the man who can render most service is the man who is going to "get there." It is important that you "get there," and remember that it is equally important what you are when you do "get there."

If at the end of your journey you are a man of no consequence, have no friends, have lived to yourself, have been a bad neighbor, whatever success you have achieved will turn to ashes. It is what you have done for the world that will count. The splendid line quoted by Mr. Hendrick—what you save, what you give away, and what you lose—is true. It is to be hoped that in the years to come the world will be made a better world, a brighter world, and a safer world for your having lived in it and worked in it, and you may be assured that when you come back to your Alma Mater, and you will come back, you will find sympathetic friends who are proud of your efforts.

I bid you Godspeed.

Six Thoughts On Engineering

State Chief Engineer of Wisconsin.

When engineering again became a recognized profession about a century and a half ago, after a lapse of many centuries, it was as military engineering. Military requirements and war have always demanded from men of science the solution of problems, many of which find application later in the arts of peace. A separation was therefore made between the field of the military engineer and that of the civil engineer, the latter devoting his energies to the works of civil life, such as roads, bridges, mills, machinery, and power development.

As these enterprises became more divergent, terms were employed to indicate the particular branch in which the engineer was engaged, such as mechanical, electrical, mining, or marine engineering. These general classifications have now become very finely subdivided. Two years ago the writer listed one hundred and thirty-six officially recognized varieties of engineer². Doubtless many were overlooked and it is probable the number has been greatly increased by the prominent part taken by the engineer in the war. This subdivision may tend to confuse the prospective engineer unless his choice is already made. The entire matter, however, is not only far less complex than it appears, but is really quite simple, and some thoughts along the line of reducing it to lower terms will be of as much value to the student who has decided on the special engineering course he is to pursue, as to the one whose mind is made up only to the point that he wishes to study engineering.

The practice of engineering rests on solid facts and fundamental principles. This is true for every one of the many varieties of the profession. A large part of the success of an engineer is due to his ability to analyze a problem into its basic elements, the truth of each of which he knows or can prove. He makes this proof by reason and by experience. The portion of reason is the principal thing the engineering student gets in the four years college course; the portion of experience comes later in professional practice.

A skilled trade is a happy endowment for

any man, particularly an engineer, to possess, but one large difference between the practicing of a trade and a profession is that in a trade the same problem is presented over and over again and solved by about the same methods, while the successful professional man is daily meeting new problems which have to be solved in new ways. A profession, such as architecture, engineering, law, or even medicine, may be, and often is, practiced as a trade. Many instances also come to mind of men who have practiced a trade as a profession, constantly studying to devise better and more economical methods, at the same time widening their view to see and grasp other opportunities. Not the least of the returns upon an acquaintanceship with them, has been the pleasure of watching these men with no technical school training rise in the engineering world by their own efforts. Not one, however, but has wished that he might have had this training, for it shortens the route and lessens the trials.

A man studying his way through a mass of technical subjects alone is like a man making his way through a strange country without a guide. He gets off the track many times; he studies his way through books and subjects only to learn at the end that they were not the books and subjects he needed and that he had wasted time and energy. If, on the other hand, he goes to a good school, he finds laid out for him an engineering course that is the cumulative result and orderly arrangement of decades of study, experiment, and survival,—of changes constantly going on to meet changing conditions.

These changes are made principally in the more highly specialized subjects. The general subjects, such as mathematics, physics, or chemistry change but slightly, for they are built around the facts of science which change only by the slow growth of basic knowledge. These general subjects deal with principles of scientific reasoning and broad training, which are applicable to all branches of engineering. The different engineering courses, therefore, have substantially the same basis.

The work of the freshman and sophomore

years is fairly similar in all courses, so that even after two years it is not difficult to change from one to another by taking some additional studies. These additional studies, taken in the course of first choice, but not required in the second, will never be amiss, for something from them may be just the idea needed to start the solution of a hard problem in the future. Often a graduate from one course enters the field of another with success, because he has been trained in the solution of engineering problems.

Assume, however, that a student may decide on the line he wishes to follow, even before entering the university,—for illustration, highway engineering. The college does not offer a four years' course in this branch, but the student will be directed to take the civil engineering course, which provides in the junior and senior years a small group of electives especially adapted to the profession of highway engineer. These electives the student may possibly take, even if he is preparing for some other line. Thus the board training of the civil engineering course is made to serve as a solid base for highway engineering, while it also prepares the graduate for other fields for which this course is designed. Similar illustrations could be made over and over again, not only with the civil but equally with the other engineering courses, the underlying principle being that the training of the college of engineering is broad and fundamental, intensive specialization coming with the later professional experience. It is hoped that this explanation will clear up many of the complexities due to the multitude of varieties of engineering.

The College of Engineering offers a four year's course in each of the following five branches of engineering, which are recognized as such the world over: Civil, Chemical, Electrical, Mechanical, and Mining Engineering. The general plan and purposes of each are described in the Bulletin of College Engineering. A few thoughts are worth being reduced to writing and put in plain sight for the prospective engineer to observe during his college course.

Thought 1. The general preparatory subjects, extending in part through three years, must not be looked upon as a useless and disagreeable task to be accomplished before you get to the "real engineering" subjects, for these preparatory studies are an essential

part of the whole. If you neglect them, you will sometime realize to your sorrow that they are just as truly "real engineering" as some highly specialized technical subject. Suppose a graduate in practice, who is qualified on the so-called technical side, writes a report in such miserable form that his superior throws it in the waste basket. Said graduate may be in luck if he does not follow his report; in any event he suddenly realizes that one of the most valuable engineering subjects he neglected in the University was English. Members of the engineering faculty have heard this regret expressed many times, and it applies with equal force to every one of the general subjects.

Thought 2. Never lose an opportunity to broaden your view of the engineering field. As freshman you will attend the series of lectures arranged especially for you, but, in addition, go to the general engineering lectures whenever your schedule will permit. Go to the library at regular intervals and look over the technical literature. Subscribe for a magazine in your chosen field, and become familiar with what is happening in that field.

Thought 3. In No. 2 you work alone, but this is not sufficient by far. Join one of the engineering societies in the college and take an active part in its work. In this kind of endeavor you will obtain nothing by absorption alone; in order to get anything of value out of it you must give much more.

Thought 4. Do not be so filled with the idea of narrow specialization that you come to regard a student in another course as in a world apart. Hunt him out and make him tell you about his work; it will be good for both of you.

Thought 5. One of the startling developments of engineering is its increasing grasp of things human; it no longer deals with inert materials alone. Above all, therefore, do not forget for one minute that you are in, as well as a part of, a great university, and do not fail to take full advantage of its overwhelming offers. Use your electives in broadening your outlook, go to lectures in addition to those on engineering subjects, meet students and faculty outside engineering, read something in the way of literature worth while, get interested in some wholesome activity, in substance, use the university for that training which will make you at ease when you happen to be the only engineer in

any group with which you may meet.

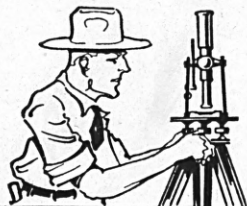
Thought 6. All thoughts along these lines reduce to this: Keep ever in mind that you are studying a profession,—one which at last has come into full recognition as such. The world expects much of the engineer in days to come, therefore make it part of your life

to do all within your power, that the world may not be disappointed.

¹From "A Booklet of Information for Freshmen" prepared by Dean of Men S. H. Goodnight, University of Wisconsin.

²Wisconsin Engineer, November, 1916, p. 75.





ALUMNI



Report of the Forty-Fourth Annual Meeting of the Rose Polytechnic Alumni Association

The thirty-fourth annual meeting of the Rose Polytechnic Alumni Association was called to order by President Walter B. Wiley in the free-hand drawing room of the Institute at 2:45 P. M., June 10, 1920.

The minutes of the last meeting were read and approved.

The Treasurer read the following report of the various funds in his care:

To the Rose Polytechnic Alumni Association:

I herewith submit the Treasurer's report for the period from June 11, 1919, to June 10, 1920:

ALUMNI FUND.

Receipts.

Balance on hand June 11, 1919	
.....	\$368.61
Dues for 1918-19 since last report	78.00
Dues for 1919-20	334.00
Total Receipts	\$ 780.61

Disbursements.

To Election Committee	\$ 66.68
To Executive Committee	46.13
Current Expenses of Secretary	
Deficit on luncheon	13.54
Printing, postage, clerk and miscellaneous	189.70
Total Disbursements	\$ 316.05
Balance on hand June 10, 1920	464.56

BANQUET FUND.

Receipts.

Cash received at picnic luncheon	\$99.00
Cash from Alumni Fund	13.54
Total Receipts	\$ 112.54

Disbursements.

Mary Crirtup, Cateress	\$75.00
Plates and Napkins	.95
Hauling	6.00
R. W. Gilbert, cigars and drinks	30.59
Total disbursements	\$ 112.54

LOAN FUND.

Balance on hand June 11, 1919	\$1056.45
Interest on loans	8.30
Interest on bank deposits	19.99
Balance on hand June 10, 1920	\$1084.74

Bills Receivable

Balance on hand June 11, 1919	\$830.00
Loans No. 20 and 21	75.00
Less cash, Loans Nos. 6, 10, 12, 15, and 19	185.00
Balance on hand June 19, 1920	\$ 720.00

FUNDS ON HAND.

Loan Fund, June 10, 1920	\$1084.74
Alumni Fund June 10, 1920	464.56
	\$1549.30
Bills Receivable	720.00
Cash balance	\$829.30

CASH IN BANKS.

T. H. Trust Co., Savings Account	\$782.13
Checking Account	45.17
Cash in Safe	2.00
Total	\$ 829.30

Respectfully submitted,

CARL WISCHMEYER,

Secretary-Treasurer.

The report was approved and accepted by consent.

At the last meeting a resolution was passed instructing the Secretary to send notices by registered letter to such men as had borrowed from the Loan Fund, and who were delinquent in payment, requesting a prompt settlement. The Secretary reported that he had done this and had received payment, or promises to pay in the near future, from all but two borrowers. The resolution referred to also instructs the Secretary to take legal proceedings to force the payment of these notes in case a satisfactory reply is not received.

It was moved by Insley, '00, seconded by Peddle, '88, that the Secretary use his discretion in dealing with these cases. Carried.

The following report by the Alumni representatives on the Board of Managers was then read:

REPORT TO THE ALUMNI.

To the Alumni,

Rose Polytechnic Institute.

Gentlemen:—

Since the last annual meeting of the Alumni in June, 1919, your Representatives in the Board of Managers have presented two written reports to the Alumni body.

The first report under date of August 19, 1919, which dealt particularly with the building program, the strengthening of the Faculty and educational facilities; also to some extent to the revenues of the Institute.

The second report dated March 19, 1920, covered the finances of Rose at the present time and also touched on some internal affairs as relating to Faculty changes.

An important matter which has been under consideration is that of a new President. This subject has received the earnest attention of your representatives and we have had more than fifteen names under consideration. We have approached two, either of whom we consider eminently fitted, but we failed to interest these gentlemen as both were in positions well to their liking and did not wish a change.

We have several very promising names now under consideration and investigation as to their qualifications. Some of these may be approached shortly.

In this connection it may be said that eight or ten Educational Institutions are looking for Presidents, some better off financially than we are and better situated to pick the cream of the executive material available. Among these are the Massachusetts Institute of Technology, Yale University, Cornell University, University of Pittsburgh, University of Pennsylvania, Kansas, Minnesota, and one or two others. The Trustees of the University of Illinois have just elected a new President after a lively balloting in Chicago on four or five men.

A wise selection of an Executive is of the utmost importance, so much so that we have thought it wise to enlist the active assistance of the Alumni in the search of the man.

To this end we have arranged for a joint meeting of the Faculty Committee of the Board of Managers and representative members of the various Tech Clubs, to canvass the situation.

One of the promising and very interesting developments of the year has been the live interest in the fiscal affairs of Rose, manifested by the various Tech Clubs. Practically all the Clubs have shown a live active interest; have asked questions; have offered suggestions and placed their services at our disposal. So we now are calling on the Alumni for constructive suggestions as to a new Executive.

You have been advised of the severing of our relations with the Architect, Mr. Van Pelt, for the present at least. The conception of his plans was admirable and the detailed drawings carried out this conception artistically and in a magnificent way. We have felt, however, a simpler motif were better for our purse and also that a different type of architecture could be adopted, perhaps more apropos for our needs, less expensive but withal an artistic creation.

The trend of prices of building materials is now downward, due largely to cessation of large building operations as a result of high prices. It is generally believed we have reached and passed the peak in the larger elements of building materials.

We must find means for the creation of a new Institute, as the funds we now have are able to approximately balance with the current expenses. There is a question whether we should endeavor to expand into a larger Institution or retain the approximate bal-

ance which has been the limit since the school opened. Do we gain by the competition for members?

We still have ahead of us two outstanding requirements, vital to the interests of the Institute: The strengthening of the Faculty to the highest degree within our limitations; this in itself will hold up the high standing we have set for ourselves. We must find means, however, to bring our facilities and equipment up to date. To give a proper housing will require large expenditures and energetic steps are necessary to find the channels from which we can draw for these expenditures.

The earnest thought of the Alumni body is asked to solve this latter problem.

A. J. HAMMOND, '89,

W. A. LAYMAN, '92,

Alumni Members Board of Managers.

Hood, '93, criticized that paragraph in the report which referred to a possible increase in the number of students at the Institute. He had supposed that it had been definitely decided that Rose should never be made a large school, and was unalterably opposed to any increase in size. Foltz, '86, agreed with Hood, and moved that it is the sense of this meeting that we advocate a policy which does not contemplate the enlargement of the Institute. Hood moved to amend the motion by inserting the word "material" before "enlargement." Rose, '92, asked for a statement from our representative as to what was contemplated, and Hammond, '89, replied that from 400 to 500 students was considered. He spoke of the advantages of such an increase, and did not think that it would put us in the "big school" class. Rose, '92, favored an increase to 400 or 500. Shook, '11, suggested as an amendment to the motion the setting of a definite limit to the enrollment. Mace, '12, did not favor any increase at present. Hood believed that about 40 graduates a year to be right. Johonnott, '93, thought that we had better let this question take care of itself, while Foltz and Hood insisted on the original motion. It was moved by Rose, '92, seconded by Wilkin, '86, that we table the motion. Carried, with two dissenting votes.

It was moved by Frohman, '94, seconded by Scott, '86, that the report of our representatives be accepted and placed on file. Carried.

Mr. R. W. Gilbert, the Athletic Director, appeared before the meeting to tell the Alumni of some of the difficulties he had encountered in his work, chiefly financial, stating that, among other things, he had been obliged to give his personal note for \$500.00 to get the money to discharge certain debts of the Athletic Association.

Hood, '93, spoke with some feeling to the effect that the Alumni could not allow the Athletic Director to become personally responsible for the expenditures of the Association. He believed that we should make up this deficit among ourselves, and offered to start a subscription for that purpose with \$25.00. He was followed by Wiley, '89, \$25.00; Insley, '00, \$25.00; Peddle, '88, \$5.00; Hammond, '89, \$25.00; Wilkin, '86, \$25.00; Wiley, '98, \$25.00; Cushman, '03, \$10.00; Rasmussen, '12, \$10.00; Mace, '12, \$10.00; McCormick, '91, \$10.00; Wentz, '12, \$10.00; Gray, '13, \$10.00; Clay, '01, \$10.00; Foltz, '86, \$10.00; Reddie, '12, \$10.00; Stoner, '15, \$10.00; Davis, '88, \$10.00; Peddle, '05, \$10.00; Schwartz, '01, \$10.00; Shook, '11, \$10.00; Fischer, '08, \$10.00; McCormick, '08, \$10.00; Kelly, '13, \$10.00; Webster, '10, \$10.00; Newhart, '11, \$10.00; Rose, '92, \$25.00; Maddex, '09, \$10.00; Weinhardt, '16, \$5.00; Stuart, '16, \$5.00; C. Wischmeyer, '06, \$5.00; Frohman, '94, \$25.00; Johonnott, '93, \$10.00; Wallace, '11, \$5.00; Zimmerman, '20, \$10.00; Pence, '20, \$10.00; Bryan, '20, \$5.00; Briggs, '20, \$5.00; Froeb, '20, \$10.00; Manson, '20, \$5.00; Woolfolk, '20, \$5.00; Paker, '19, \$5.00; Gilum, '19, \$5.00.

Hood, '93, believed that we should not stop here but consider the other needs of the Athletic Association, and especially those which were likely to develop in the future, and said that he was willing to pledge himself for \$25.00 a year for the next five years providing he lived. Rasmussen, '12, followed with a pledge of \$10.00 for the same period.

Wentz, '12, suggested that we form an Alumni Athletic Association to look after this matter and foster athletics. Kelly, '13, agreed with this suggestion and thought that all pledges should be increased to five years. McCormick, '91, thought a committee should be appointed to take charge of this matter, while Kline, '16, thought we should have an Alumni Manager. Shook, '11, seconded by Mace, '12, moved that an Alumni Board of Control, consisting of five men, be

appointed by the President to handle the matter of raising funds and fostering athletics. Some objection was raised to the name and it was generally agreed that "The Alumni Athletic Advisory Committee" would be better. There was considerable discussion and diversity of opinion as to what should be the functions of this committee and how the funds should be handled. To clarify the situation the motion was withdrawn and it was moved by McCormick, '91, seconded by Mace, '12, that the President appoint a committee of three to draft a resolution and report later. This was carried and Shook, Insley, and Kelly were appointed.

The taking of five year pledges was then resumed and the following were received: Hood, '93, \$25.00; Insley, '00, \$25.00; Rasmussen, '12, \$10.00; Wiley, '89, \$25.00; Johonnott, '93, \$10.00; Wilkin, '86, \$25.00; Clay, '01, \$10.00; Cushman, '03, \$10.00; Mace, '12, \$10.00; Kelly, '13, \$10.00; Fischer, '08, \$10.00; Peddle, '88, \$5.00; Foltz, '86, \$25.00; Stuart, '16, \$5.00; Gray, '13, \$10.00; Routledge, '07, \$5.00; Mewhinney, '91, \$25.00; Wallace, '11, \$5.00; McCormick, '08, \$10.00; Stock, '08, \$5.00; Webster, '10, \$5.00; Frohman, '94, \$25.00; Wentz, '12, \$10.00; W. O'Laughlin, '14, \$10.00; Self, '20, \$5.00; Pence, '20, \$5.00; Briggs, '20, \$5.00; Brophy, '20, \$5.00; Stone, '20, \$5.00; Bryan, '20, \$5.00; Orth, '20, \$5.00; Exline, '20, \$5.00; Weinhardt, '16, \$5.00; Kline, '16, \$5.00; Hubbard, '12, \$5.00; Kremer, '20, \$5.00; Gillum, '19, \$5.00; C. Wischmeyer, '06, \$5.00; Hammond, '89, \$25.00; Wiley, '98, \$15.00; McCormick, '91, \$10.00; Newhart, '11, \$10.00; Modesitt, '06, \$5.00; Shook, '11, \$10.00; Froeb, '20, \$5.00; Ruston, '20, \$5.00; Farmer, '20, \$5.00.

Hammond, seconded by Rose, moved that we proceed with the regular business, and the Election Committee made the following report:

To the Members of the Rose Polytechnic Alumni Association:—

Your Committee on Elections hereby submit their report as follows: In reply to request for nominations for Alumni Representative on the Board of Managers, 139 ballots were received.

John T. Wilkin, '86, received 34 votes.
William H. Insley, '00, received 30 votes.
Omar C. Mewhinney, '91, received 27 votes.
Allen S. Bixby, '92, received 20 votes.
F. R. Fishback, '02, received 18 votes.

Benj. McKeen, '85, received 6 votes.
Samuel S. Wales, '91, received 1 vote.
Bruce Failey, '96, received 1 vote.
Luther S. Rose, '92, received 1 vote.
E. D. Frohman, '94, received 1 vote.

On final ballot:

John T. Wilkin, '86, received 104 votes.
William H. Insley, '00, received 128 votes.
Fred Frisz, '09, received 1 vote.

For President and Vice-President:

A. S. Bixby, '92, received 40 votes.
O. C. Mewhinney, '91, received 65 votes.
H. G. Clay, '01, received 15 votes.
W. B. Shook, '11, received 26 votes.
R. L. McCormick, '91, received 86 votes.
S. S. Wales, '91, received 3 votes.

Respectfully submitted,

CHARLES E. SCOTT,
E. S. JOHONNOTT,
Committee on Elections.

W. H. Insley was therefore declared Representative on the Board of Managers, R. L. McCormick, President, and Omar C. Mewhinney vice-president.

The following men responded to the roll-call: '86, Foltz, Scott, Wilkin; '88, Davis, J. B. Peddle; '89, Hammond, Wiley; '91, McCormick, Mewhinney, Wales; '92, Rose; '93, Hood, Johonnott; '94, Frohman; '98, Wiley; '00, Insley; '01, Clay, Schwartz; '03, Cushman; '05, C. R. Peddle; '06, Modesitt, C. Wischmeyer; '07, Routledge; '08, Fischer, Hathaway, McCormick, Stock; '09, Maddex; '10, Piper, Webster; '11, Newhart, Shook, Wallace; '12, Hubbard, Mace, Rasmussen, Reddie, Wentz; '13, Baines, Gray, Kelly, Overpeck; '14, W. M. O'Laughlin; '15, Coordes, Hegarty, Stoner; '16, Dailey, Kline, Stuart, Weinhardt; '17, Austermler, Toelle; '18, Curtis; '19, Gillum, Pekar, Wessel; '20, Bierbaum, Briggs, Brophy, Bryan, Exline, Farmer, Flesher, Froeb, Heubel, Kessler, A. W. King, J. S. King, Kremer, Lauterbach, Manson, D. C. Maxwell, Moore, Orth, Osmer, Owen, Pence, Reinking, Ruston, Schlaman, Self, Sliger, Stimson, Stone, Woolfolk, Young, Zimmerman.

The committee which was instructed to prepare the resolution on help for the Athletic Association returned and Shook, '11, presented the following:

Move you that a Committee of five members be appointed annually by the incoming President, to be known as the Alumni Athle-

tic Advisory Committee.

The duties of this Committee shall be to solicit funds from the Alumni for the support of the Athletic Association of the Institute, which fund shall be turned over to the Student Council for this purpose; and further that this Committee shall advise with the Athletic Association on all matters relating to the athletic interests of the school.

INSLEY, '00,

KELLEY, '13,

SHOOK, '11,

Committee.

This motion was seconded by Hood, '93. Webster, '10, thought that the business should be handled through the Rose Tech Clubs, while Insley, '00, advised that the methods should be left in the hands of the Committee.

Motion carried.

Reddie, '12, spoke of the urgent financial needs of the Institute and asked that the resolutions of the Pittsburgh Rose Tech Club be brought before the meeting for action. As, however, several men who were strongly interested in this matter were obliged to be absent for a short time to attend another meeting, this matter was temporarily passed.

Peddle, '88, seconded by Hood, '93, moved that we make Dr. Mees and Dr. Mendenhall honorary members of the Association. Carried.

McCormick, '91, seconded by Kelly, '13, moved a vote of thanks to Brent Wiley for his admirable address at the Commencement exercises. Carried.

Hood, '93, moved that the Secretary be instructed to purchase a token of some sort, at a cost not to exceed \$50.00, and present it to Mrs. Burton as an expression of the esteem and good will of the Alumni Association. Foltz, '86, in seconding this motion, suggested that it be something that could be engraved with an appropriate sentiment. Carried.

Peddle, '05, moved the nomination of Shook, '11, Stock, '08, and Mace, '12, for the Executive Committee for the coming year. Seconded by Peddle, '88. Moved by Foltz, '86, seconded by Schwartz, '01, that the nominations be closed. Carried. Whereupon these men were declared elected.

Moved by Foltz, '86, seconded by Johonnott, '93, that a committee of three be appointed to draw up suitable resolutions to ex-

press the feelings of the Association towards Professors Hathaway and Wickersham. The motion was carried and Johonnott, '93, Davis, '88, and Schwartz, '01, were appointed.

At a call for nominations for President and Vice-President the following men were named: Arthur M. Hood, S. S. Wales, John T. Wilkin, A. J. Hammond and Claiborne Pirtle.

As the hour was getting late and the time for the lunch was at hand it was agreed to postpone the formal discussion of the Pittsburgh resolutions until after the lunch.

It was moved by Foltz, '86, seconded by Hood, '93, that the 1920 class be admitted to membership in the Association. Carried.

A recess was then taken till after lunch, when the Pittsburgh resolutions were taken up. A short speech was made by Reddie, '12, after which a circular letter which had been mailed to each alumnus by the Pittsburgh Club was read by the Secretary. Omitting the introductory and explanatory matter the resolutions contained in it were as follows:

"Therefore, be it resolved:

"That the sections of the Rose Tech Club consider these facts and offer suggestions and recommendations to the Rose Tech Club of Pittsburgh covering the following definite points:

1. Making Rose known as the leading school of Automotive Engineering in the United States.

2. Preparation by the Institute of a prospectus covering a comprehensive course in Automotive Engineering, including plans for co-operating with Automobile Manufacturers to provide practical training for students.

3. Advertising and selling the plan to the Automobile Manufacturers to the extent that they will endow the Institute with funds sufficient for carrying on its work.

That a copy of these resolutions be sent to each section of the Rose Tech Club and a copy spread upon the minutes of the Rose Tech Club of Pittsburgh."

S. S. Wales made a brief talk in which he explained that there was no intention of narrowing the scope of the Institute work.

Frohman, '94, moved the adoption of the resolutions, and was seconded by Reddie.

Shook, '11, presented some resolutions from the Indianapolis Rose Tech Club in which the feasibility of the plan was questioned. Reddie, '12, replied to this argument

that the plan was practicable, and that even if no help was forthcoming from the Automotive industry nothing would be lost. Hammond, '89, said that the Massachusetts Institute of Technology had pledged its services to certain industries in return for donations to its endowment. He was in favor of having the Pittsburgh Club work out the details of the plan in such shape that it could be presented to the Board of Managers and Faculty for consideration. Schwartz spoke of three attempts, of which he or Bixby had had personal knowledge, to interest manufacturers along the proposed lines, all of which had been flat failures. Hood, '93, said that past failures were no argument against possible success in this instance, that we would lose nothing by making the attempt and might gain everything. Mewhinney spoke of the advertising value of the plan, saying that he did not believe that Rose was as well known as it should be. Wales asked that the plan be endorsed in order that it might be brought before the Board and Faculty. Ham-

mond, '89, seconded by Hood, '93, moved that Frohman's motion be amended by inviting the Pittsburgh Tech Club to develop its plan further. Rose, '92, advised us to go slowly, giving it as his opinion that there were too many lines of engineering taught now. He opposed the present day tendency to specialization. Professor Wagner was called upon for an opinion and said that he was not in a position to discuss the matter on its merits at such short notice, but that as a general proposition he did not favor too much specialization in a school like ours. Dr. Mees was asked for an expression of opinion and said that as he understood it the adoption of the resolution did not obligate anyone to the adoption of the plan, but merely encourages the Pittsburgh Club to put its ideas into a workable form.

A vote being called for the resolution, as amended by Hammond, was carried 31 to 15.
Adjourned at 7:45.

CARL WISCHMEYER,
Secretary.



BASEBALL

To Indiana State Normal again goes the City Baseball championship and the best claim of all the secondary colleges for the first position in the I. C. A. L. standing. Rose's last chance to remain a contender was wrested from her in the second game with the Teachers when Coach Bayh's well-oiled machine won a 3 to 1 verdict after nearly two hours of thrilling baseball that was marked by the Engineers superiority until the last inning.

Reinhard working on the mound had the blue and white opposition very much upon his hip, though toting a sore arm, until the fatal frame. A timely hit by Steffen in the eighth driving home Meadows offset the one-run lead which the Teachers had maintained since the fourth. Reinhard had gotten into numerous holes throughout the contest but had pulled successfully out of the most of them so that no great concern was caused by his walking of Lowe in the ninth. When Webb forced the Normal runner at second it looked

like things were going to take their usual route but Webb made a bid at prolonging the agony by stealing second base. Kerr then turned the situation to favor the blue by working on Reinhard's arm for a walk.

The next event of the game will no doubt become epochal in the history of Rose-Normal athletics. Frank Glenn, Normal short-stop who starred in the earlier innings by sensational playing in the field inscribed his name everlastingly in the Hall of Normal Fame by driving Reinhard's third of fourth offering (data lost) over the center field fence. The hit yielded him three bases and the chesty Bayhmen two runs, one more than enough to win.

The entire Rose team played good baseball, perhaps the best of the year, but could do but little with the steady pitching of Kerr while the Teachers seemed able as usual to make their scant number of hits count. The box score follows:

S. NORMAL—	A.B.	R.	H.	P.O.	A.	E.
Glenn, ss.	4	0	2	2	2	0
Young, lf.	3	0	1	1	0	1
Schinnerer, cf.	2	0	0	2	0	0
Hochstettler, cf.	1	0	0	1	0	0
Winter, c.	3	0	1	13	2	0
Rausch, 1b.	4	4	1	5	0	0
Jensen, 2b.	4	0	0	1	2	0
Lowe, 2b.	3	1	1	2	3	0
Webb, rf.	2	1	0	0	0	0
Kerr, p.	3	1	1	0	1	0
Totals	29	3	7	27	10	1

ROSE POLY—	A.B.	R.	H.	P.O.	A.	E.
Meadows, ss.	4	1	1	3	1	1
Harris, rf.	3	0	2	0	0	0
Steffen, 1b.	4	0	1	10	0	0
Reinhart, p.	4	0	1	0	4	0
Rustin, c.	3	0	0	6	1	0
Pence, 2b.	4	0	0	2	2	0
Rolshausen, cf.	4	0	1	2	0	0
Price, 3b.	1	0	0	1	1	1
Brophy, 3b.	2	0	0	0	1	0
Rosenbaum, lf.	2	0	0	1	0	0
Busen, lf.	0	0	0	0	0	0
Totals	29	1	6	*25	10	2

*One out when winning runs were scored.
 Rose Poly 0 0 0 0 0 0 1 0—1
 State Normal 0 0 0 1 0 0 0 0 2—3

Three-base hit—Glenn. Two-base hit—Rolshausen. Struck out—By Kerr, 13; by Reinhart, 4. Stolen bases—Harris, Glenn, Webb (2). Bases on balls—Off Kerr, 4; off Reinhart, 5. Sacrifice hits—Webb (2), Meadows, Harris, Schinnerer, Young. Umpire—Ferguson. Time—2:00. Attendance—700.

The Little Giants wiped out their early season defeat at the hands of the Engineers by cleaning Gilbert's outfit at Crawfordsville 11 to 4. The crimson had little difficulty in getting to our hurlers, neither of whom were in shape and the verdicts rested where it belonged at the end of the game. Score by innings:

Nearly duplicating the 1919 season Rose ended the past season by defeating a visiting team at Rose field, having won no game since the first game of the year. Muncie Normal fell before the good pitching of Reinhart and Rolshausen and the heavy hitting of a few of our stars. Five of the Engineers' six hits off Knight went for extra bases, Meadows getting two triples, Harris a triple and a double and Taggart a double. These robust blows sufficed to give our team six runs and as Reinhart pitched four innings without allowing a hit and Rolshausen keeping two blows well scattered over three frames it can hardly be expected that the opposition's total will amount to more than 0.

Five Seniors, regulars, played their last game for Rose. Captain Pence, Meadows, Rolshausen, Ruston and Brophy contributed their last exhibition to the fans and unless they are seen in possible contests with future alumni, we will never again see these stars in action.

The score of the last game, a decisive victory, follows:

ROSE POLY—	A.B.	R.	H.	P.O.	A.	E.
Meadows, ss, 3b.	4	2	2	4	0	1
Harris, rf, cf, 1b.	4	2	2	2	1	0
Steffen, 1b.	3	0	0	4	2	0
Anstead, cf.	1	0	0	0	0	0
Reinhart, p, lf.	3	0	0	0	2	0
Pence, 2b.	1	0	0	1	1	0
Rolshausen, p.	1	0	0	0	1	0
Ruston, c.	2	0	1	2	0	0
Owens, lf.	2	0	0	0	0	0
Brophy, rf.	0	1	0	2	0	0
Price, 3b.	2	0	0	1	0	0
Taggart, ss.	1	1	1	0	0	0
Rosenbaum, cf.	2	0	0	1	0	0
Hager, c.	0	0	0	4	0	2
Totals	24	6	6	21	7	4

MUNCIE NORMAL—	A.B.	R.	H.	P.O.	A.	E.
Clark, 2b.	3	0	0	0	2	1
Brubaker, ss.	2	0	0	0	3	1
Skyock, rf.	3	0	0	1	0	0
Belcher, c.	2	0	1	2	1	1
Fields, 1b.	3	0	0	10	0	0
Davis, cf.	3	0	0	2	0	0
French, lf.	2	0	0	0	0	0
Baker, 3b.	2	0	1	3	2	0
Knight, p.	2	0	0	0	1	1
Totals	20	0	2	18	9	4

Muncie Normal 0 0 0 0 0 0 0—0
 Rose Poly 2 0 2 0 0 2 *—6

Three-base hits—Meadows (2), Harris. Two-base hits—Harris, Taggart. Sacrifice fly—Pence. Sacrifice hit—Hager. Stolen bases—Belcher, Reinhart, Ruston, Pence (2). Double play—Harris to Steffen. Hits—Off Reinhart, 0 in 4 innings; off Rolshausen, 2 in 3 innings. Base on balls—Off Reinhart, 2; off Knight, 2. Struck out—By Reinhart 2, by Knight 2, by Rolshausen 4. Wild pitch—Rolshausen. Passed ball—Hager (2), Belcher. Time of game—1:20. Umpire—Ferguson.

The Inter-fraternity cup in both Baseball and Track remained in the hands of the Sigma Nus by virtue of their winning out in both competitions. In the base ball tournament, Reinhart representing the A. T. O.'s came near beating the Theta Xi's but could not quite turn back all of their regulars, the T. X.'s finally winning 3 to 1. The P. I. E. S. surprised the Sigma Nus and held the cham-

pions to a 2 to 1 count. Errors behind Danner were largely responsible for the close Theta Xi showing in the final game while Rolshausen was hit hard at times and the cup went to Sigma Nu by a 6 to 5 score.

The results of the track meet were—Sigma Nu, 59; Theta Xi, 35; A. T. O., 10. Dix of Theta Xi and Conover of Sigma Nu performed brilliantly, the work of the latter being the champions winning factor.



TRACK



Earlham, 63.
Butler, 16.

Franklin, 32½.
Rose Poly, 5½.

Normal, 0.

Relay Race.

Earlham, first.

Franklin, second.
Butler, third.

Tennis.

Butler, singles and doubles.

The Eighteenth Annual Track and Field Meet held at Rose Field May 22 was won by Earlham College with comparative ease although her athletes were forced to extend themselves in every event. Rose captured fourth place through the efforts of Dix, Exline and Wagner. Indiana State Normal failed to score and therefrom we naturally derive considerable satisfaction.

"Bob" Owens and "Prin" Williams were strong contenders in tennis, the pair disposing of Normal in the doubles and losing out in final with Butler after a hard fight. In the singles, Owens beat Grove, a Teacher, with ease but lost three close sets and the tournament to Wamsley of Butler.

The meet was marked by good records in all the events and the lowering of one I. C. A. L. record and the threatening of several others. Johnson, Earlham's star weight man, broke the I. C. A. L. record in the discus with a hurl of 128 feet 9 inches. This record was previously held by Gilfillan of Notre Dame. In the shotput Johnson scored a mark of 43 feet, enough to break the record of Brown of Wabash, but fouled in the attempt and was never able to do better than 42 feet 1¾ inches thereafter, 6¼ inches behind the crimson athlete's mark. The 120-yard high hurdle race was won by Ivey of Earlham in 15 2-5 seconds, 1-5 of a second better than the record held by Naber of Wabash, but dispute over the qualification of one of the runners

necessitated the running over of the event and the next time was 16 1-5 seconds.

Ivey of Earlham fell one inch short of his own record in the high jump, failing to clear the bar at 5 feet 11 inches. Doolittle of Butler ran a spectacular race in winning the mile, stepping the distance in just 1 2-5 seconds slower than the time set by Meyers of DePauw on the same track five years ago. Doolittle's time was 4 minutes 38 1-5 seconds.

Kingsolver of Franklin was the individual star of the meet, winning firsts in the 220-yard dash and the 220-yard low hurdles and second in the 100-yard dash. Ivey of Earlham scored 11 points by getting first in the high jump and 120-yard high hurdles and third in the broad jump. Johnson of Earlham was the third point-getter with 10 points gained by taking first in the shot-put and discus. Lawler of Earlham scored 9 points and Doolittle of Butler, Campbell of Franklin and Dalton and Fauquher of Earlham each scored 8 points.

Earlham won the relay with ease, although Kingsolver of Franklin ran a spectacular last quarter, passing the Butler entrant who started ahead of him and gaining appreciably on the leader.

Indiana State Normal failed to figure in a single event, but Nattkemper was forced to retire from the pole vault without a miss when he broke his pole. Rose's stars, Dix and Conover, ran into an unexpectedly fast field and Conover could not score, while the best Dix could do was third in the two hurdles. Conover got into the final in both the 100 and 200-yard dash, but landed fourth in each. Exline of Rose proved a dark horse in taking second in the shotput. The summary:

120-yard high hurdles—Ivey (Earlham), first; Lawler (Earlham), second; Dix (Rose Poly), third. Time—16 1-5 seconds.

100-yard dash—Fauquher (Earlham), first; Kingsolver (Franklin), second; Strohl (Franklin), third. Time—10 1-5 seconds.

One mile run—Doolittle (Butler), first; Dalton (Earlham), second; Tomlinson (Earlham), third. Time—4 minutes, 38 1-5 seconds.

440-yard dash—Carter (Earlham), first; Campbell (Franklin), second; Gale (Franklin), third. Time—54 2-5 seconds.

220-yard dash—Kingsolver (Franklin), first; Fauquher (Earlham), second; Strohl (Franklin), third. Time—22 3-5 seconds.

220-yard low hurdles—Kingsolver (Franklin), first; Campbell (Franklin), second; Dix (Rose Poly), third. Time—26 seconds.

880-yard run—Draper (Butler), first; Robinson (Earlham), second; Gale (Franklin), third. Time—2 minutes, 5 3-5 seconds.

Two-mile run—Dalton (Earlham), first; Doolittle (Butler), second; Tomlinson (Earlham), third. Time—10 minutes, 41 seconds.

Discus hurl—Johnson (Earlham), first; Robinson (Franklin), second; Carey (Earlham), third. Distance—128 feet, 9 inches. (New I. C. A. L. record.)

Running high jump—Ivey (Earlham), first; Lawler (Earlham), second; Wagner (Rose Poly) and Pike (Franklin), tied for third. Height—5 feet, 10 inches.

16-pound shotput—Johnson (Earlham), first; Exline (Rose Poly), second; Pike (Franklin), third. Distance—42 feet, 1¾ inches.

Running broad jump—Campbell (Frank-

lin), first; Lafler (Earlham), second; Ivey (Earlham), third. Distance—20 feet, 11 inches.

Pole vault—Graffice (Earlham), first; Mercer (Butler), second; Whitley (Earlham), third. Height—11 feet.

Relay—Won by Earlham: Franklin, second; Butler, third. Time—3 minutes, 17 seconds.

HONOR ROLL OF ATHLETES Class of 1920.

Herber Briggs—Football, 1919.

Basketball 1919, 1918.

Andrew Brophy—Football, 1917, 1918, 1919.

Baseball—1916, 1917, 1918, 1919.

Harold Exline—Track, 1919.

Karl A. Froeb—Basketball, 1918, 1919.

James King—Football, 1916, 1917, 1918, 1919

Harold P. Kremer—Football, 1919.

William Meadows—Baseball, 1916, 1917, 1918, 1919.

Fred M. Pence—Baseball, 1916, 1917, 1918, 1919.

Jacob Reinking—Football, 1918, 1919.

Baseball, 1916, 1917, 1918.

Track, 1918.

Basketball, 1916, 1917, 1918, 1919.

Ferdinand Rolshausen—Baseball, 1916, 1917, 1918, 1919.

Basketball, 1918.

Norman A. Ruston—Baseball, 1917, 1918, 1919.

Rex J. Self—Football, 1918, 1919.



ROSE LEAVES

BERGMANN — (A)

R. O. T. C.

These are trying days for Sgt. Kearns with all the government equipment being turned in, somewhat the worse for wear. It's all over for most of the Sophomoes, while the Freshmen still have another year of keeping their toes on the line.

The term's work ended with the parade on Decoration day at which a goodly number of men turned out to show what Rose can do in a military way. Altho it was the first time that most of the boys had marched to a funeral dirge, the lines were straight as a

die and the step was perfect. The officers felt pretty cocky with their 45 automatics on their hips and the men were proud of the new colors just uncased.

Goodman was in charge. McDargh, battalion adj., Young and Joslin in charge of the Soph and Freshman companies respectively.

With the arrival of Capt. Elam who has the hearty support of everyone, military takes on a new aspect and everything points towards a forthcoming successful year.

THE SENIOR RECEPTION.

The annual Senior Reception was held at the Elk's Club on the evening of June ninth. A large number of students and their friends were in attendance. Refreshments were served after which there was dancing.

ALPHA TAU OMEGA NOTES.

Gamma Gamma Chapter of Alpha Tau Omega gave their last dance of the year in the form of a boatripe Thursday evening, May 24th. Refreshments were served and the favors were Kewpies dressed in the fraternity colors. Joseph S. Gillum, '15, and Mrs. Gillum acted as chaperons.

Gamma Gamma Chapter held a picnic at the Hulman Farm on Friday, June 4th, in honor of the eight seniors. The seniors leaving this year are: Karl A. Froeb, Herbert Briggs, Jr., Arthur P. Woolfolk, Clift W. Young, Rex J. Self, James S. King, Ronald C. Manson, and Whitcomb W. Moore.

W. H. Webster, '10, visited the chapter on June 9th.

THETA XI NOTES.

The Kappa Chapter of the Theta Xi fra-

ternity held their annual spring dance at their chapter house at 1012 North Eighth street Saturday evening, May 15. The event was a huge success and the evening was enjoyed by everyone present. Punch was served throughout the evening and the favors were small elephants on an old rose ribbon. The fraternity letters were inscribed on each elephant and the class numerals. The guests were F. B. Case and W. R. Dalrymple from Armour Tech. Dr. and Mrs. E. S. Johonnott acted as chaperons.

On Sunday, June 6th, the Theta Xi Fraternity held a picnic at Forst Park. The event was held in honor of the nine seniors and was the last social activity of the chapter this school year. The chapter has not witnessed as large a graduating class as this year. Those leaving are F. M. Pence, W. H. Meadows, H. G. Schlaman, J. C. Zimmerman, F. M. Stone, G. K. Woodling, N. A. Ruston, H. P. Kremer, and F. W. Rolsausen. Mr. W. E. Carr from Washington State University was the guest and chaperon.

Theta Xi announces the marriage of C. F. Carlisle, '16. He has accepted a position with Sam P. Stone, '16, as an architect at New Orleans.

Frank H. Wentz, '12, visited the chapter on June 8th.

THE ALUMNI LUNCHEON

The feed after the business meeting this year took the form of a buffet lunch, and was held in the Gymnasium at 6:15 o'clock.

Before entering, each man was met by a "green goods" agent, who by the use of some smooth talk duped his victims into buying \$1,000,000 in greenbacks for the modest sum of \$2.00 in lawful currency. These greenbacks however were found to be useful

when it came to settling with the cashier for the lunch and the other forms of entertainment which were offered.

The menu is given above, and it will be noted that in spite of the prevailing high prices to be found in most restaurants we were served a substantial meal for a very modest sum.

Salle a Manger

MENU

June 10, 1920.

Hors d'Ouvre	.25
Canape Eclat	4.00
Bisque embraser	.50
Lobster se fortifier	1000.00
Oeufs eclore	9598.00
Poulet espagnol	549,999.00
Beans entre-bâiller	5.48
Pomme de Terre au hasard	175,831.39
Pie a la Mode	7,500.00
Cafe étincelant	895.00
Flor de Cabbage	9.98
Everything	<u>743,853.60</u>

The walls were decorated with numerous signs for the information of the guests, whose composition is attributed to Foltz, such as

Customers will please not accept tips from the waiters.

Spagetti 5c yd. Stepladders with 10c orders.

Hark, hark, the hot dogs do bark.

We serve dull knives with our peas.

Our butter cannot be approached.

In God we trust. All others cash.

Everything fresh, but the cashier!?!

Not responsible for mislaid eggs.

Money will not be refunded for steaks which have been bent.

Profanity not tolerated.

Grape fruit 5c; with raincoats, 10c.

Customers are requested not to bring dogs, cats or Fords into the dining room.

Those men who had sporting proclivities found many ways of getting rid of whatever cash they had left after paying for the lunch.

As most of the Alumni wished to get away in time to catch early trains out of the city the party broke up soon after the lunch was over.



There is a fellow that I know,
Who thought it would be nice,
Not to cram for his exam
But take Doc. White's advice.

So on the very night before,
In place of studying hours
He went down town at half past eight,
And stood in front of Baur's.

He went to school with rested mind,
He'd studied not at all
And took the quiz but he got his,
He'll take the con next fall.

Another fellow in this town
Who heeded not Doc. White,
Said "I'll be wise, and memorize,
By boning half the night."

By eight o'clock, this lad began
O'er divers texts to pore.
And as he burned the midnight oil
He crammed till after four.

He went to class to take the quiz,
And though he'd studied late,
The one who'd scorned Doc White's advice,
Pulled down a ninety-eight.



G O B B O O N



At the recent baseball game between Rose and Normal at Parson's Field the Normal boys and girls claimed that the Rose Engineers did not show good sportsmanship. They did not like the ringing of those engine bells because it made them home-sick. It reminded the Normalites of the old cow-bell down on the farm. And besides, little Georgie must have absolute quiet when he pitches for the least little noise makes him terribly nervous. It was noticed that several of the Normal girls in the stands were wearing dark glasses. This was in strict accordance with a recent ruling of the dean to the effect that no Normal girl could look at a Rose man with the naked eye because of the demoralizing effect. However, some of the bolder ones are still willing to take a chance.

Mr. Alfred J. Suttie has gone abroad for the summer. He has gone to his home in Brazil, Indiana.

Although it is not generally known, William Calhoun Bryan, the popular senior electrical and all-around athlete, will probably soon be pitching for some eastern big-league baseball team. All during his four years at Rose, major league scouts have been watching with interest his work on the mound and have constantly been urging him to play professional baseball but Bryan repeatedly refused.

However, now that he has graduated some team will quickly sign him up. William still persists that he will continue in the engineering profession but it is thought that the lure of the diamond will prove too great for him.

MEMORIES.

Don't you remember
Sometime when
You've gone
Into
Professor Hathaway's room
Intending
To learn some Calculus
And as soon
As you
Get inside the
Door
Somebody hits
You in the head with
A piece of chalk;
And then when you
Get in
There
And 'Fessor says,
"Order" and
Someone
Hollers "Whiskey";
And you get a front seat
And 'Fessor
Starts
To write some
Hieroglyphics on the board
And you try
To copy
Them
But
And pretty soon
Galloping Dominoes;
Over a game of
Lot of noise
Everybody is making a
Somebody
Yells
"Put Wolff out!"
And you get disgusted
And go out
Muttering
" 'Twas ever
Thus."



Jake Reinking was an athlete bold
 In games of divers sorts;
 And when you'd ask what course he took,
 He'd simply answer "Sports."

First Brother—Did you say Al sent you
 those El Cucumbrio cigars from Havana?

Second ditto—Yes.

First Brother—He sure knows the ropes,
 doesn't he?—Purple Cow.

Sam—What's the best thing to do for
 water on the knee?

Ham—Wear pumps.—Purple Cow.

Fresh—How do you make hash?

Soph.—You don't—it just accumulates.—
 Yale Record.

Penna—What kind of a collar is that you
 have on-

Penno—An Arrow.

Penna—Does it pierce your neck?

PLAYING CHECKERS.

"I daresay Jack is forging ahead rapidly
 since he left college."

"Yes, but there have been several checks in
 his career!"—Widow.

Mr. James King is highly elated to think
 that he is graduating from Rose with a full
 set of teeth. Although from time to time
 during his rather eventful career, Jim has
 had several of the molars extracted more or
 less forcibly he has had them all replaced and
 can now smile without displaying a glaring
 cavity. However, he thereby loses the name
 of "Toothless."

It is rumored that Ferdinand W. Rols-
 hausen, '20, has signed a contract with a well-
 known California motion picture producing
 company. He is to pose as a hall-tree in in-
 terior scenes. Gordon D. Hardin of the
 Freshman class was offered a similar position
 but refused, saying that he wished to con-
 tinue his education.

One day last week a number of boxes of
 chalk were received at the Institute to be
 used for next year. On close examination it
 was found that the chalk in one large box
 possessed a sweet strawberry flavor. This
 box was addressed to Professor Harold A.
 Thomas.

Senior—Where have you been?

Fresh.—To the cemetery.

Senior—Anyone dead?

Fresh.—All of them.—Siren.

QUITE A DIFFERENCE.

"Fair maid, may I come out to call?"

"I'm sure, sir, I don't getcha."

"Well, may I take you to the ball?"

"Ah, now, I hear! You betcha."

—Yale Record.

Ruston (to Doc White, after cutting his
 finger in chemical laboratory—What would
 you recommend for a cut, Doctor?

Doc.— Adouble unexcused absence.



Frosh—Where'd you get the medal?

Soph—Saved a girl.

Frosh—How?

Soph—Had dates with two the other night and saved one for tonight.

The bee buzzed on from flower to flower
And nowhere long did stay,
From which we judged it must have been
The insect's buzzy day. —Judge.

FOR CHEMIST S ONLY.

Fox (In Organic Chemistry)—Name three sugars.

Kinkle—Powdered, granulated and lump.

Prof.—What are the exports of Virginia?

Stude—Tobacco and live stock, sir.

Prof.—Live stock? What kind of live stock?

Stude—Camels, sir. —Awgwan.

Wicky—I'm letting you gentlemen out fifteen minutes before the end of the hour. Go down the steps quietly.

Voice from the rear—"Don't worry, 'Fessor; we won't wake up the other classes.

STRANGE.

Absent-minded Prof.—Didn't you have a brother in this course last year?

Student—No, sir, it was I. I'm repeating the course.

Absent-minded Prof.—Extraordinary resemblance, though. Positively extraordinary. —Voo Doo.

Jo-Jo (in electricity)—What is the electrical unit of power?

Taggert—What?

Jo-Jo—Correct.

Kitty—Jack was miserable when he kissed me goodbye at the station.

Catty—I don't pity him one bit; he didn't have to kiss you. —Boston Transcript.

Old Maid—Last night, on my way home, I had to pass a dark street. Suddenly a man came out before me. Oh, how I ran!

The Sixteen-Year-Old—Did you catch him? —Christiana Tyrikans.

History Prof.—Give me some information concerning the Liberty Bell.

Studen (Ingersoll in hand)—It'll ring in just two minutes.—Chaparral.

A SNAP.

Soph.—Did you ever take chloroform?

Fresh.—No, who teaches it?—Voo Doo.

Jo Jo—Now, what will ϕ be (Phebe)?

Watson—Five, 'Fessor.

CAN YOU FINISH THIS ONE?

Some classes are such a delight,
You can sleep just as well as at night.

When in Journal Reviews,
You enjoy a good snooze,

You can thank our Dr. John—

Prof.—What is the meaning of Vortex?

Abey—Oh, I know. It's the eextra cents on ice cream and movies.

—Burr.

FASHION HINT.

Green caps will be all the rage next fall—especially with the Freshmen.

A very distressing incident took place near the close of the school year just ended. It may even result in the expulsion from the institute of one of our most popular students, Mr. C. B. Wilson, of the Sophomore electricals. The occurrence happened during the mechanical drawing period. Mr. Wilson, who is a very industrious lad, was busily engaged in completing his thirty-seventh sheet when some mischievous idler threw an eraser striking young Wilson behind the right ear. This caused Wilson to spoil his drawing and naturally incensed him to such a degree that he exclaimed, "Doggone it," so loudly that Professor Stock, who was standing nearby, easily overheard him. Of course the professor was extremely shocked and immediately sent Mr. Wilson from the class. When approached by a Goboon reporter, Mr. Stock refused to discuss the matter further than to say, "I—er—er—well—that is—you see—er—ahem—it—it—was this way—er——," while the eager news-hound hurried elsewhere to gain information.

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John Thompson had a grievous cold,

His voice was low and husky,
 And so, one evening, I am told,
 As it was growing dusky,

He journeyed over to demand
 Advice of Dr. Brown,
 Who had the fattest practice
 And the fairest wife in town.

Arrived before the doctor's door,
 His oft repeated knocking
 Brought to the door the doctor's spouse
 In lingerie and stocking.

With voice which croaked and seemed to
 strain

Upon the slightest sound,
 He managed somehow, under pain
 To croak, "Is Doc around?"

Then, what was his surprise and doubt—
 I'd hardly say chagrin,

When, having shyly peered without,
 She whispered, "No, come in."

—Snappy Stories.

It wouldn't be appropriate
 To end this stuff of ours,
 Without inserting here or there
 Some dope concern Baur's.

So since the Institute is out;
 To while away the hours,
 The weary "stude" can go up town,
 And hang around at Baur's.

There was a young student named Downen;
 He came from a very small townen.

Needing money one day,
 Tried to borrow from Gray,
 Who, it seems, quickly turned Downen downen.

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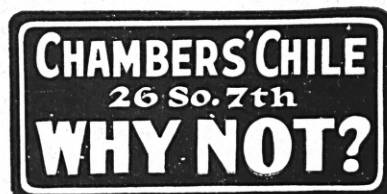
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