



Missouri S&T Magazine, September-October 1948

Miner Alumni Association

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MSM ALUMNUS

Missouri School of Mines and Metallurgy
ROLLA, MO.

VOL. 22

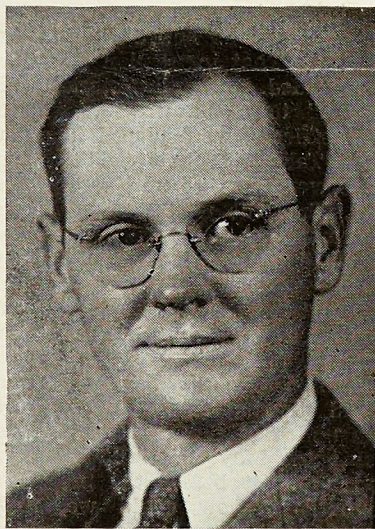
SEPTEMBER - OCTOBER :: 1948

NUMBER 5

TWO NEW FEATURES TO MARK MSM Enrollment Hits HOMECOMING, OCTOBER 29-30 New All Time High

The 1948 Missouri School of Mines Homecoming, October 29 and 30, will be distinguished by two new features—an informal gathering of Alumni and wives on Friday evening and a reception committee composed of Alumni and wives to greet "Homecomers" Saturday morning in the lobby of Parker Hall. The get-together event will be on the second floor of the Pennant Tavern.

Members of the classes of 1896 to 1900, and 1921 to 1925 have received special invitations from the



CHARLES A. FREEMAN

Homecoming Alumni Committee to attend this year's reunion. This will be the 25th anniversary year of the class of 1923, which, incidentally, had the largest class representation at Homecoming last year. The organized system of reunions of the successive groups in each fifth anniversary year was started in 1946 in a special effort to bring together a large number of Alumni who attended school at the same time.

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1948 Homecoming Program

Friday, October 29

- 9:30 a. m. Board Meeting, Directors of Alumni Association
- 1:00 p. m. Annual Business Meeting of Alumni Association in Parker Hall Auditorium
- 7:00-10:00 p. m. Informal Gathering of Alumni and Wives Pennant Tavern, 2nd floor

Saturday, October 30

- 9:00-11:00 a. m. Registration in Parker Hall
- 11:00 a. m. Homecoming Convocation in Parker Hall Auditorium

Address of Welcome Dean Curtis L. Wilson

President's Report.....Karl F. Hasselmann

Treasurer's Report.....Howard M. Katz

Convocation Address.....Enoch R. Needles—

"On Coming Home"

2:30 p. m. Football game, Miners vs. Southwest Mo. State College

6:30 p. m. Annual Banquet, Edwin Long Hotel

9:30 p. m. Homecoming Dance sponsored by St. Pat's Board

Major Richardson to Japan

Major E. C. Richardson, Professor of Military Science and Tactics at the School of Mines for the past four years, was assigned recently to the Far Eastern Command and left the first part of October for Yokahama, Japan. He expects to remain overseas about 30 months. Before coming to Rolla in 1944, he served with the military department at the University of Nebraska.

Enrollment for the fall semester has reached a new all time high with a registration of 2704 students compared with 2635 last year.

The registration included 452 freshmen, 460 sophomores, 1005 juniors, 639 seniors, 103 graduate students, and 50 unclassified students. Of this number 2684 are men and 25 women. The registration includes a total of 1827 veterans.

The Mechanical Engineering Department is again the largest department with 553 enrolled, followed by 483 in Electrical Engineering, 432 in Mining Engineering, 402 in Civil Engineering, 298 in Chemical Engineering, 228 in Metallurgical Engineering, 88 in Ceramic Engineering, 88 in the science curriculum, and 89 in engineering with their specialty not specified. There are 50 unclassified, special, and short-course veteran students.

Miners Off to Good Start on Gridiron

In three pre-Conference games, the Miners have done surprisingly well. Highly touted Memphis State was defeated 6-0 in a tight game. Last year the same Memphis blanked the Miners 13-0 without allowing a first down; so the Miner improvement is obvious.

Washington U. of St. Louis caught MSM on an off day, trouncing them 19-7. Most observers reported that the Miners "couldn't get going"—this away-from-home jinx has prevailed for many years, especially in games played in St. Louis. The Miners have one more chance to upset this St. Louis double whammy when they play St. Louis University on Nov. 20.

In their second home game, the
(Continued on Page 11)

SECTION NEWS

To MSM Alumni:

For the past several years I have had editorial responsibility for the M. S. M. Alumnus. Having been a veteran of the first war, I felt it my solemn duty, as a civilian, to feed-out to those men in World War II such information as would possibly be of interest to them. This I attempted to do, and within myself, a certain amount of satisfaction. At that time your M. S. M. Alumnus was printed in St. Louis, and, with taking certain liberties with my employers and their time, I was able to proof read practically everything which went into our paper. Noel Hubbard, then, and ever since, has been the real worker on our publication. He has been alert for news items, always, and has stepped "out of cast" many times to procure for us such information as might be helpful to those in far parts who might be tried sorefully in evaluating the contemporary trends of our school's operations.

I think we should, first of all, analyze the scope of our publication. It goes, besides to paid members, to faculty members, legislators, Board of Curators and Board of Visitors. Also to all schools throughout the world who exchange with us, and to PROSPECTIVE STUDENTS, now in high schools.

By virtue of this latter classification, we have had help from the administration in the form of postage, clerical help, office space, and otherwise. They consider our publication as a sales-promotion piece for the Institution.

A somewhat different slant has been placed upon this procedure by a couple of our members. They feel we have sold out our birthright to the Administration. I don't think so. Noel Hubbard has done an honest job of reporting, and I fully believe he has not "colored" the situation at any time deeper, in favor of the Administration, than I would have done if it were completely up to me.

On the other hand, and upon several occasions, I have called Noel's attention to the repetitive appearances of photographs of the same subject, as an example, and he has kept score on the situation.

It's simply a matter of arithmetic. We have 1000 members, plus or minus, to play with. That's \$5000

per year.

Up until 1944 we had a publication of usually eight pages, printed three or four times per year. Who dominated the situation then? Now we have six editions per year of from 20 to 32 pages. It's got to be done by somebody. Each edition, even by printing in Rolla where we saved 40 per cent against St. Louis, costs around \$400 to print, bind, pay postage and stationery. What's left? Also we have clerical help to keep the records straight, and we've got to answer a lot of letters, pay postage, etc. There's a job open for an "M. S. M.-Spirited"

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This letter to graduates of the Missouri School of Mines has been prepared by Fred C. Schneeberger, '25, a member of the Board of Directors of the MSM Alumni Association.

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Alumnus who will volunteer to take on the job above for what we can afford to pay.

During the past month, Karl Hasselmann and I have visited four M. S. M. Alumni Sections. Karl and I visited Pittsburgh together; Karl visited New York, and I visited Chicago; and last week, with Harry Pence, Executive Vice President, and Barney Nuell, member of the Board of Directors.

At these meetings, and from correspondence received from sections at Midland, Tex., Los Angeles, Calif., Pittsburgh, Penna., and Washington, D. C., we are confronted with the challenge that we had been speaking for the Alumni Association without benefit of poll.

I'd like to present our side of the story, as was done in the meetings I have attended, and which were productive of retraction of previous blasts, by several of the sections involved.

There are two major points of contention, i.e.:

1. Separation
2. Transfer of Faculty

St. Louis Section went on record as opposed to separation. Chicago, Pittsburgh, and New York signified their willingness to do so—if necessary. So much for number one.

We had a meeting in St. Louis on July 10, 1948. We sent out notices to all members of the Board of

Directors. We invited the officers of the St. Louis Section to attend a couple of days before the meeting. Later, one of the St. Louis Section officers phoned me and said he had invited one of the Post Dispatch reporters, whom he knew, to attend, and would it be okay with me. I said, "Okay, but let's let all the papers in—not just the Post Dispatch." So, I called the Globe Democrat and the Star-Times in St. Louis and wrote to the Rolla Herald and the Daily News.

At that time I didn't know whether we would have a Board meeting or just a Committee meeting, since a Board meeting depended upon a quorum. Our express purpose was to discuss Karl Hasselmann's and Mervin Kelly's most recent prospective releases. We did not have a quorum. The press appeared, and we admonished them that whatever was said was "by individuals, as individuals, and not as officers of the Alumni Association." At least, as far as the Post Dispatch is concerned, apparently, that wasn't news. They had to give the impression that we had spoken as, and for, the entire Alumni Association. That impression was never intended. The entire stories were "jettied" to a place where we, as your officers, were placed in a bad light. Take the photo in the paper—we were very solemn on the first shot. Then the photographer loaded his camera and said, "You look like a bunch of morticians!" Naturally, we all smiled, and that's the shot they used, indicating that we were making light of a very serious situation.

We had our last M. S. M. Alumni Board meeting on April 25, 1948. The notice of the Faculty Transfer was made May 22, 1948. We knew nothing of it before the press announced it—how could we, then, commit you to an approval, or disapproval?

Karl Hasselmann and I met in Houston in 1942. I was bitter, but open, on the relationship between M. S. M. and M. U. We decided, then, that come "Hell or High Water", we were going to see that M. S. M. got its share and its place in the sun. It's been rough—but what, worthwhile, hasn't? We can take it—because neither Karl nor I, nor any of your national officers has

(Continued on Page 6)

MSM Alumnus

FACING THE FUTURE

Low Birth Rate Trend Among College Grads

According to the annual birth rate survey of college graduates conducted by the Population Reference Bureau of Washington, D. C., the number of children born in this country of higher intelligence groups is discouraging. A study of classes of 1923 and 1938, in which the Missouri School of Mines Alumni Association cooperated, emphasizes a low birth rate trend.

At present, the third of Americans least economically able and with less than a high school education produces two thirds of our future generation, the Bureau reports. In trying to find a means of alleviating this problem, for the past three years the Bureau has studied the birth rate of the 25th reunion college classes, whose families, because of the age of the average graduate, are almost complete. To learn more recent trends, the tenth reunion classes were studied.

Conforming to the low birth rate trend, a review of the MSM class of 1923 showed an average of 1.56 children per graduate. Not only did the class fall short of the national average of 1.76 children per reporting male graduate of 66 colleges, the poll indicates, but they also failed to attain replacement of their college class with the 2.1 children

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Officers of the Association

Karl F. Hasselmann '25.....President
Harry Pence '23.....Vice President
James L. Head '16.....Vice President
Howard M. Katz '13.....Sec'y.-Treas.

Board of Directors

F. C. Schneeberger '21.
Barney Nuell '21.
J. M. Wanenmacher '23.
M. E. Nickel '38.
R. G. Prough '38.

Magazine

which the Bureau estimates is needed.

With 1.68 offspring each, husbands of '23 at MSM also missed the national mark of 1.89 children per married graduates. Fathers (married graduates with one or more children) could boast of only 1.91 babies each, which is below the national average of 2.25 children per parent.

The tenth reunion class of 1938 at MSM made a better showing. Surpassing the national average of 1.21 children for male graduates of 84 colleges, '38 men reported 1.63 each. They were well ahead of the 1.56 children average of the 25th reunion class. Among the married graduates of '38, husbands with 1.67 children each and fathers with 1.90 children both exceeded their respective national marks of 1.44 children per husband and 1.82 children per parent.

How do these results from MSM compare with other colleges that cooperated in the Bureau's poll of the 25th and tenth reunion classes? Placing 37th in the returns from 66 colleges, the class of '23 outranked men of 19 other colleges including Columbia and the University of Richmond, each with averages of 1.50 children each; and Bucknell University, Pa. with 1.47 children.

However, they lagged far behind the national winners, Utah State Agricultural College, whose men produced 2.90 children each.

In the top ten of the 84 colleges studied, the tenth reunion class of Miners ranked eighth. They produced more children than 76 other colleges, among which were University of Arkansas (1.44), Texas A. & M. (1.28), Harvard (1.05). Like the class of 1923, they failed to approach Utah State Agricultural College men, who set the pace for the tenth reunion classes with 2.01 children each, according to those making the survey.

Neither class attained perpetuation, and only '38 graduates surpassed their national averages. There was only 74 per cent replacement of the class of 1923 and but 77 per cent replacement of graduates.

The MSM Alumni Association will cooperate in next year's survey of the classes of 1924 and 1939.

Homecoming

(Continued From Page 1)

Enoch Ray Needles, '14, 55 Liberty Street, New York City, consulting engineer, who served as a lieutenant colonel in the Army Engineering Corps during the last war, will speak on the subject, "On Coming Home" at the Convocation Saturday morning at 11 o'clock.

Other Homecoming attractions will be a football game in the afternoon when the Miners meet South-



ENOCH R. NEEDLES

west Missouri State College of Springfield and the Homecoming ball in the evening at Jackling Gymnasium.

Charles A. Freeman, '28, is again chairman of the Homecoming Alumni Committee appointed by Karl F. Hasselmann, president of the Alumni Association. Also on the committee are Albert E. Barnard, '27, and James W. Stephens, '47. The faculty committee assisting with the arrangements includes: Fred Davidson, '41, chairman; Leon Hershkowitz, '41, James F. Rushing, '40 Edwin K. Schuman, '20, Clare J. Thorpe, '35, and David F. Walsh, '23. It was appointed by Dean Curtis L. Wilson.

ROBERT J. YOCHUM PRESENTED FLYNT MEMORIAL AWARD

Robert John Yochum, MSM Senior, was presented the Frank L. Flynt Memorial Award for 1948 at a meeting of the student chapter of the American Society of Civil Engineers on Sept. 21.

This award, which is sponsored by the Tri-City Section of A.S.C.E. and the local student chapter, consists of a certificate and a selected set of civil engineering reference books.

WITH THE GRADUATES

MSM Alumna Answers Razzing "Longhairs"

By Eva Hirdler Greene '11

The longhairs seem to get a great deal of pleasure out of razzing the hairy ears. This banter has been going on ever since World War I but during World War II, the longhairs allowed their razzing to become a real challenge to the hairy ears. Since the war, this teasing has mounted to more or less of an indictment against the engineering profession for its failure, during World War II, to accomplish what the longhairs expected of it. Fanning this flame (see FORTUNE, November 1945), in an article entitled "Longhairs vs. Hairy Ears," an anonymous writer (apparently writing for an important group of scientists) drew a distinct line between physicists and the longhaired college professors on the one hand, and the engineers, as a whole, on the other hand. In his article, the longhairs seemed to be laughing contentedly, in their superior way, over what they call the failure of the hairy ears to measure up. Only recently this attitude has been exposed by Anson L. Lowitz, a New York executive, in exhorting professionals to eliminate their simulated caste system.

For the sake of getting the record straight, in answering this challenge, it is important, at this time, to recognize these group differences because the theorists and engineers have a great many real problems ahead where a harmonious relationship of interests will prove the only solution. They must collaborate on a basis of equality if we are to replace the chaos of the world today, with sensible order. The longhairs seem to forget that the province of the physicists and the mathematicians is distinctly different from that of the engineers. But one without the other would leave the problems unsolved.

The sort of cooperation needed is well stated by P. C. Keith (Chemical & Metallurgical Engineering, February 1946) in his story of the "Role of the Process Engineer in the Atomic Project" wherein he tells of the joint efforts of the physicist, the chemist, the industrialist and the military that composed the giant team, with the know-how,

that was so successful in this country. The Europeans failed because they lacked such cooperation.

As is well known, the function of the longhairs is to investigate the laws of nature as they relate to the subjects in hand, and obtain the facts. The engineer's job is to take the observations thus obtained by the purely theoretical scientist and make something practical out of these facts by giving them a utilitarian value.

Let's take the subject of radar, for instance, which was still in the laboratory stage of investigation at the beginning of World War II. That stage of development belonged to the longhairs. They were playing with it before the war; learning how to take advantage of the laws of nature to produce new effects using the principle of radar. Its use

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The author of this article, Mrs. Eva Hirdler Greene, received a B. S. degree in Mining Engineering from the Missouri School of Mines in 1911. She did post graduate work at the University of Tulsa, University of California, and the California Institute of Technology.

A mother of two grown children, Mrs. Greene is associated presently with the Institute of Allied Arts in Los Angeles. At one time she was technical editor and mineral statistician, Missouri Bureau of Geology and Mines.

~~~~~  
had not yet passed the stage of the bread-board model, and was strictly the problem of the nuclear physicist. Not until radar was ready to be graduated out of the laboratory of pure science, was such a "hot potato" ready for the mitt of the technical, or research engineer.

But, in spite of this obvious division of technical interests in the different phases of development from the mere radar theory to the actual end-product of the manufacturer, the anonymous writer—whose article in FORTUNE was mentioned previously—seemed to take special delight in razzing the engineer for his inadequate contribution of work in the successful development of radar. The engineer was belittled, particularly because he followed standard practice. That

writer stated that the broadly trained scientist has the habit of making careful observations of natural phenomena first, and then seeks new truths based on his observations; that he loves to question standard practice, even if it should be engineering practice; that it is the policy of the longhairs to ignore conventional conceptions of what might be possible in the existing state of anything that might be under study; that this particularly applied to the development of radar during World War II. He also kidded the engineer for following the rules in some cases, as found in standard textbooks current during the war.

Who shall we say wrote those textbooks and pray who builds the engineering curricula of the various schools? The engineering students take what is made available to them and are too inexperienced, in their undergraduate days, to realize that the curricula does not properly reflect their needs. It is lacking not only in the basic sciences and mathematics, and particularly the application of these fundamentals to actual problems, but also lacking in technical as well as general vocabulary.

Another important factor to consider, in this teasing complaint of the longhairs, is the fact that the engineers have an entirely different objective. The benefits that can result from equal participation in solving scientific problems are beyond the imagination.

Engineers do not have the time nor the inclination to check the results of observations obtained by the pure scientists in their study of the laws of nature. They merely apply these facts to the solution of practical problems. It is up to the academicians to have available for engineers the latest data. How are we to take that fascinating trip to the planet Mars without the cooperation of these two groups? The pure scientists, the mathematicians and the engineers had better hurry up and combine their efforts in behalf of those who are ready to make reservations! I am sure the cooperative efforts of all these technicians will produce the needed projectile for us to fly on to explore other worlds. Recently Lieutenant General James H. Doolittle (retired) stated that he personally consid-

WITH THE GRADUATES

ered ten years too soon but said that an engineering survey was being made to back an early plunge into space.

To hasten that voyage, let's clarify the picture as to what really constitutes the different spheres of all these important professional groups. According to the latest, and most scientific findings, the abilities of these various technical people have been classified and they show distinct patterns. The special field of the Human Engineering Laboratory (affiliated with the Stevens Institute of Technology) is the testing of aptitudes of human beings in a manner that produces results as scientifically reliable as the assaying of a sample of ore, or the analyzing of a chemical compound.

Let us see what the predominant pattern is for the longhairs, the technical or research engineer, the designing engineer, the process engineer, the manufacturing executive, and the salesman of engineering products:

The theorist or research scientist—nicknamed "longhairs" — is subjective* or extremely subjective in personality; he works best when detached from the business world, and is happy in the seclusion of his own laboratory or workshop. In chemistry, he discovered the element helium and other rare minerals. In physics, the Hertzian waves were discovered many, many years ago, only because a sensitive experiment had been disturbed. Such a scientist is high in structural visualization (the ability to think in three dimensions) and also high in inductive reasoning.

The technical or research engineer has the ability to apply the fundamental laws as discovered by the pure scientist. He utilizes such

(*Note: the terms (*) "subjective" and (**) "objective" as used herein refer to one's biological and personality pattern, representing inherent aptitudes only as traced thru the statistical approach. They are not related to behavior patterns as revealed in social personalities. In evaluating the aptitude of PERSONALITY, for instance, the Laboratory's researchers have reached the high accuracy, technically known as RELIABILITY, of 0.95, which closely approaches unity (1.00).)

speculative discoveries for the benefit of mankind. The practical manner in which the research engineer puts theoretical ideas to use quite often results in the production of bulky apparatus. His main work lies in that area known as the pilot plant stage. He is usually less subjective than the pure scientist. He tends to score high in structural visualization and high in inductive reasoning.

Next, is the **designing engineer**. In adapting the bulky apparatus created by the research engineer into a more marketable product, he produces a more practical and compact article. The designing engineer untangles the snarls and irons out the wrinkles that show up in the previous period of development. He then translates his new determinations into the commercial plant stage of operations. Most of these engineers score objectively** (see note) but tend to cluster close to the borderline between subjective and objective personality. These persons have the inherent capacity to work successfully either by themselves or with small groups. They are high in structural visualization and usually high in inductive reasoning.

The process engineer is a natural expediter. He takes the product of the designing engineer, places it in production and follows thru in the most efficient manner, in the shortest space of time, cuts down costs, etc. He must know every operation; has an extensive knowledge of the factory as well as the product. He works under continual external pressure; bears up well under incessant ringing of the telephone; meets constant changes because of delayed deliveries, etc.; and seems to work without undue exertion.

The key talent to such a person's success is what the Laboratory calls "number memory," a type of visual memory. He has the objective personality of the executive and is capable of coaxing an entire organization into working together to get things done on time. He is usually above average in accounting aptitude, (i. e., speed and accuracy in paper-and-pencil work). He is rather high in creative imagination and average or above in structural visualization. His chances of success seem to improve with his abil-

ity to maintain a mental picture of a constantly changing factory schedule.

The manufacturing executive (in most cases an engineer) then produces the designing engineer's device at a price the public can afford. Such executives score objective in personality and generally work best with large groups. They are high in accounting aptitude, often low in both creative imagination and inductive reasoning; and average or above, but not necessarily high) in structural visualization.

The sales engineer, who distributes the finished article, operates in accordance with his personality. The majority are extremely objective but some are subjective in personality. They are high in creative imagination and low in structural visualization.

These represent the predominant patterns in general. But, due to the fact that individuals possess different combinations of aptitudes in which they do not all score alike, we can always expect a certain variance. According to this degree of difference, some individuals are endowed with the ability to work successfully in what might be designated as overlapping fields. This wider range of possibilities, however, represents a pattern distinct in itself. It does not affect the type of personality.

Now, resuming the argument, "Longhairs Vs. Hairy Ears," when the theorists were ready to hand over the bread-board models in radar development to the engineers, to whom did they appeal? Did they expect the objective type of engineer to do a job that could be tackled only by the cloistered engineer whose subjective personality equipped him with proper qualities to solve the problem?

As far as getting the job done properly, is concerned, such an error in directing work might easily have been responsible for some of the failures.

Another consideration that should be made in favor of the engineers is that fact that engineering covers such a tremendous scope of subjects. It is therefore impossible for one engineer to be an authority in all the fields. There are very few people who have the ability to really work with and understand more

(Continued on Page 10)

ENDOWMENT FUND

J. H. Steinmesch '06, Presents \$500 Check

Last August 23rd was a "Red Letter Day" for the Missouri School of Mines Alumni Association because on that day Jesse Herman Steinmesch, '06, Vice President of the Minerva Oil Company of St. Louis, penned a \$500 check to Karl F. Hasselmann, president of the Association. Mr. Steinmesch writes that the money may be added to the Endowment Fund.

An outstanding alumnus and one time faculty member of the college, Jesse Steinmesch, who is known by his associates as "as good a Dutch-



J. H. STEINMESCH

man as you would want to come in contact with," is a firm believer in giving the student a helping hand. For the past several years he has made an annual award of \$50 to the winners of an essay contest among the student members of the American Institute of Mining and Metallurgical Engineers as a means of stimulating activity of the local student chapter and also to engender interest in the mineral industry.

Steinmesch received an Engineer of Mines degree in 1909 as well as his B. S. in Mining in 1906. Currently named in "Who's Who in

Engineering," he began to make a name for himself in the engineering field when he successfully fulfilled his job as assistant superintendent and later superintendent of the Desloge Consolidated Lead Company in Southeast Missouri from 1905 to 1930. In 1932 he came back to MSM campus to serve as acting head of the mining department for three years. He has been a consulting mining engineer since 1929 and has been with the Minerva Oil Company, which has properties in Illinois and Indiana, since 1937.

Jesse says he has met lots of nice people. He is a family man with two daughters and five grandchildren. In addition to his work, he finds time to attend Sunday morning services of the Presbyterian Church and to devote considerable time to various civic and extra-professional activities. He is a member of the A. I. M. M. E., Missouri Academy of Science, Illinois Geological Society, Phi Kappa Phi, American Mining Congress and the Independent Petroleum Association. During the thirties he made a trip all over the country visiting various mining fields where underground loading machinery was used in order to prepare copy for the U. S. Bureau of Mines Bulletin 423 on Underground Loading Machines, which he co-authored with McHenry Mosier.

Besides his \$500 contribution, Mr. Steinmesch has written the alumni association—"I have about the same amount on loan to a student and may turn that sum over to you later if sufficiently encouraged."

TO MSM ALUMNI:

(Continued From Page 2)

one damned thing, personally, to gain (we're all doing okay) but to see to it that M. S. M. at Rolla, gets its share of what's available.

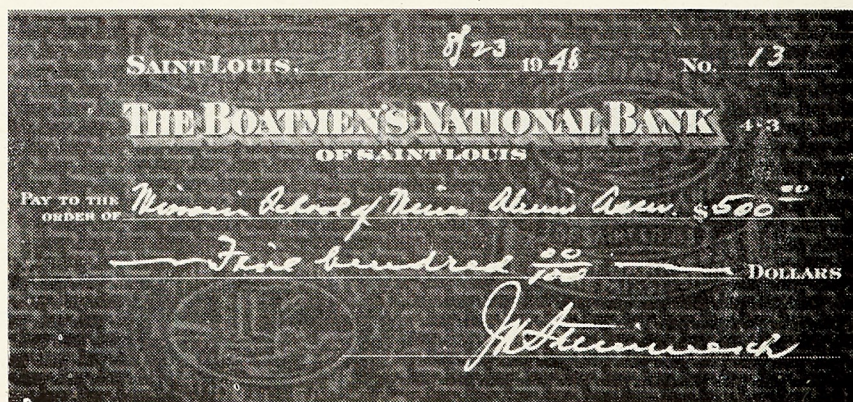
I hope, from the above, that those of you who sent in discourse on the situations involved, will understand why we have not used the pages of the Alumnus Magazine to display your viewpoints. Karl Hasselmann wrote 31 letters on Labor Day. These are all chain letters. So if we published them and their rebuttals—our Alumnus would be 150 pages. Who pays? I told our officers in 1946 that I had appeared in print too often, and that I'd turn it over to younger and more able compatriots in the future.

Just one thing I'd like to say before my "Swan Song." Karl Hasselmann, Babe Head, Harry Pence and all the members of our Board have worked for your interests, always, and those who do not realize that, are those who do not know what it takes to be an unselfish advocate of M. S. M.—no matter what the obstacle. Our Board had what it takes—and regardless of well meaning criticism from various sources, we are under sound management, and nobody, among your entire Board, needs anything from Rolla, nor Missouri, in addition to what he has received in the privilege of attending the best engineering school in the Midwest.

Instead of glaring capitals, I'm just going to say:

Why don't we get together and use our power to push a school with 2700 students and 175 faculty to the top of the heap.

Fred C. Schneeberger, '25



ALUMNI MILESTONES

Deaths

CARL WILLIAM B. SITZLER

Carl William B. Sitzler '24, for the past seven years superintendent of the Southern Illinois office of Triangle Construction Company, was fatally injured on July 20 when the automobile he was driving collided with a truck near Buckner, Ill. He was graduated from MSM with a B. S. degree in civil engineering in 1924 and joined the Alumni Association the same year.

A resident of Carbondale, Ill., where Triangle has its Southern state headquarters, he was employed at Triangle's Kankakee Office for four years before going to Carbondale. He went to Kankakee after doing tunnel work in New York and New Jersey. He was 46 years old.

While in school Carl belonged to Grubstakers Club and later Triangle Fraternity. He also was a member of Tau Beta Phi, Phi Kappa Phi, Satyr and the American Society of Civil Engineers. He was editor of the Rollamo in 1923.

Funeral services were held at the Calvin E. Feutz Funeral Home in St. Louis with burial in the Oak Grove Memorial Park in St. Louis. He is survived by his wife, Mrs. Elva Sitzler, and two aunts, Mrs. Frank Wheelan of Stafford Springs, Conn. and Mrs. Dorothy Lawyer of Kansas City, Mo.

MRS. B. H. RUCKER

Mrs. Booker Hall Rucker, 73 years old, died on Sept. 13 at her home in Rolla, Missouri after a long illness. She attended Missouri School of Mines intermittently from 1886 to 1894 and was graduated from the University of Missouri at Columbia with a B. S. degree in education in 1934.

The former Miss Margaret Southgate Rucker lived most of her life in Rolla, where she was active in many civic organizations. She is survived by her husband, B. H. Rucker, for many years representative in the legislature from Phelps County, and active in affairs concerning MSM; two sons, Booker Hall Rucker, Jr. of Joplin, Mo., MSM '30, and Ray S. Rucker of Rolla, and six grandchildren. Funeral services were held at the Christ Church, Episcopal in Rolla with burial in the Rolla Cemetery.

LOUIS J. PORRI

Word has been received of the death of Louis Joseph Porri, '10, 435 Fairview Avenue, Arcadia, California, more than a year ago. Louis was graduated from MSM in 1910 with a B. S. in Mining Engineering. A member of Tau Beta Pi fraternity, he also was active in athletics while in school. His home was formerly in St. Louis, Missouri, where he at one time worked for the Walsh Fire Clay Products Company and later was district sales manager of the St. Louis Fire Brick & Clay Company at Huntington Park, California. He is survived by his wife.

DAVID E. HENRY

David E. Henry, civil engineer, died of a heart ailment recently. He attended Missouri School of Mines in 1892 and again in 1900. Mr. Henry had been in ill health for several years and of late had made his home with a daughter, Mrs. Harriet Barnwell of San Anselmo, California. Also surviving is another daughter, Mrs. Phyllis Bertineli of Los Angeles. He was buried in the Masonic Cemetery at Colma, California.

JAMES OTTO HENDRICKS

James Otto Hendricks '99, Route No. 4, Bolivar, Missouri, died May 23 of old age infirmities. He received a B. S. degree in civil engineering from MSM in 1899.

Mr. Hendricks was born Sept. 22, 1871. He was engaged in farming the latter years of his life. He is survived by his wife, Mrs. Hendricks, a daughter, and grandchildren. Funeral services were held at Mount Gilead Church with burial in the church cemetery.

Births

James D. F. Evans and Mrs. Evans announce the arrival of a son, James III, born in May, 1948. Jim writes that the young man may wish to come to Rolla with the class of '68.

Herman C. Ross, '48, and Mrs. Ross are the proud parents of a son, Charles William, who was born July 17. Herman is with the Haliburton Oil Well Cementing Company, Duncan, Okla.

Weddings

SCHMOLDT - WILSON

The marriage of Miss Jimmie Lynn Wilson and Hans Edward Schmoldt '44 has been announced by her parents, Mr. and Mrs. James Emery Wilson. The wedding took place on Saturday, Sept. 4, at Itasca, Texas. The bridegroom is the son of William Schmoldt of New Brunswick, New Jersey.

Mr. Schmoldt, a member of Sigma Pi fraternity, was graduated in 1944 with a B. S. degree in Chemical Engineering. He is employed by the Phillips Petroleum Company, Bartlesville, Oklahoma.

SCOTT - REED

The marriage of Miss Virginia Lee Reed, daughter of Mr. and Mrs. Arthur T. Reed of St. Louis, and Harry Sylvester Scott, Jr. '44, was Arthur T. Reed of St. Louis, and Harry Sylvester Scott, Jr. '44, was solemnized on Saturday evening, Sept. 19, at the Evangelical Church of the Messiah in St. Louis. After the Rev. George Wittmer performed the ceremony the bride's parents gave a reception on the lawn of their home. The couple will live at 2123 Portis Avenue, St. Louis.

The bridegroom received a B. S. degree in chemical engineering from the Missouri School of Mines, where he belonged to Alpha Chi Sigma and Tau Beta Pi fraternities. Robert A. Pohl '42 was a member of the wedding party.

TAPPMAYER - SANDS

Miss Mary Elizabeth Sands became the bride of Ronald Arthur Tappmeyer '47 on August 4th at the Smith-Hollow Chapel in Rolla, Missouri. The best man was David Peterson, '48. Ronald, who is a member of Sigma Nu fraternity, is employed by the Shell Oil Company, in Midland, Texas, where the young couple will make their home.

KOCH - EISENMENGER

Miss Ruth Mae Eisenmenger, and Donald H. Koch, '47, were married Saturday afternoon, August 21, at St. Paul's Evangelical and Reformed Church, St. Louis, Missouri. Best man was Robert Hackmann, '48, and Arthur Tapperson, '48, served as usher.

Don, a member of Kappa Sigma
(Continued on Page 15)

WATER TUNNELS

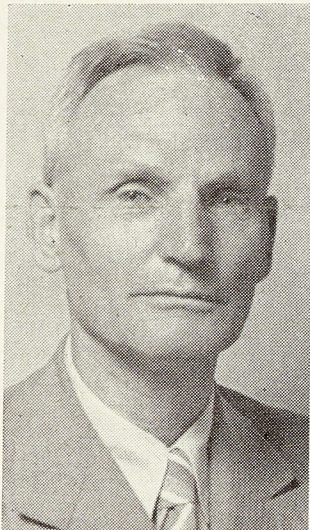
Engineering Tasks in New York Big

By Paul R. Cook, '07-B.S., '17 E.M.

Once when I was back in New York from the tropics, E. & M. J. had a blind ad for a man with wide experience on Dorr equipment in isolated places where he had to keep it running far from supplies. It was Dorr Co. They threw me into sewage disposal at Chicago and all over Illinois, Tulsa, Sioux Falls, Topeka, Abilene, etc.

This enabled me to go to work for New York City, when they started sewage disposal with Civil and Mechanical Engineers off a civil service list who had never seen a sewage disposal plant.

I later switched to the 85 mile



PAUL R. COOK

water supply tunnel, and subways system. Both design and field work.

The City of New York has Civil, Mechanical and Electrical Engineers and Chemists and Metallurgists, but with \$3 billion of mining no classification as Mining Engineer, so I am a Civil Engineer of Mines.

In 1662, the Indians thought they were very smart in cheating fool Dutchmen out of \$24.00 worth of trade goods for the worthless rocks and swamps of Manhattan Island surrounded with water too salty to drink. But the Dutchman dug wells in their dooryards.

Beginning in 1677, public wells were dug in the streets, the first at

Bowling Green in front of the fort.

In 1776, the population of New York had reached 22,000 and a reservoir was built on the East Side of Broadway between Pearl and White Streets and water pumped into it from wells and the famous "Collect Pond," and distributed through hollow logs laid in the streets. Collect Pond has recently been the scene of much difficulty encountered in getting suitable foundations for the New Criminal Courts Building.

In 1800, the population now 60,000, the Manhattan Company, (today a bank), dug a well at Reade and Centre Streets and distributed 700,000 gallons a day through wood-iron mains.

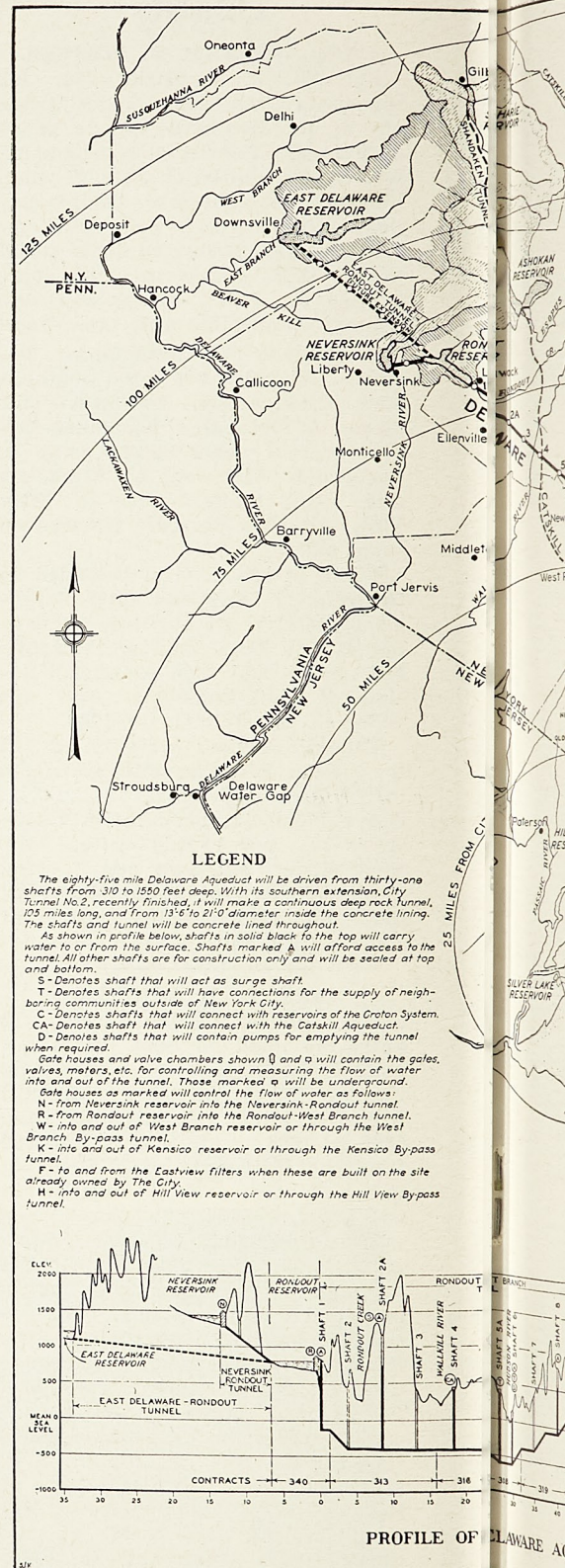
In 1825, for fire protection a well was dug 16 feet in diameter times 112 feet deep, the last 98 feet in solid rock with a 25 foot and 75 foot gallery 6 feet times 4 feet. A total of 21,000 gallons a day was pumped by a 12 horse power steam engine into a tank at 13th Street and Broadway and distributed through two 12 inch cast iron pipes, one down the Bowery and the other down Broadway.

In 1842, following the Great Fire of 1835, with a population of 200,000, an aqueduct was completed to Croton River bringing in 90 million gallons per day from first reservoir. The New Croton aqueduct and reservoirs, built in 1893, brought in 285 million gallons per day.

Before 1842, wells having proved unsuitable in quality and quantity, domestic needs were supplied mostly from rain water from roofs to cisterns.

In 1859, Brooklyn, population 300,000, put in its first public water supply, pumped from a line of wells along the South Side of Long Island from gravel beds dipping south into the ocean, which seeps into wells if pumped too strong. These are now held back as an emergency supply.

In 1917, a 92-mile aqueduct was completed bringing in a half-million gallons per day from the Ashokan Reservoir in the Southeast corner of the Catskills. The profile shows numerous tunnels up to 3 miles long. To cross (1) Wallkill, (2) Roundont and (3) Hudson rivers, shafts were sunk connected by 5 miles of tunnel for each river. Then



SUBWAYS SYSTEM

nels under (1) Hudson, (2) Roundont and (3) Wallkill Rivers) and 22 miles through shaft 13, and 12 miles through shaft 23. The other shafts are for delivery of water to adjacent towns. The missing numbers on profile are shafts sunk to drive tunnel from and later ceiled off with concrete plugs.

In City Tunnel No. 1 and No. 2 the multitude of water delivery shafts are not shown, only the de-watering shafts.

Sewage is taken under the East River, for treatment at Ward's Island Plant, through one tunnel from Manhattan and another from the Bronx. When the Manhattan Tunnel encountered bad ground it was sealed off with concrete and a winze sunk and a deeper tunnel driven below the bad ground.

The water supply tunnels require enough cover of solid rock to hold shafts) have cost about \$340,000,000.

About \$2 billion has been spent on subways, the greater part in rock excavation. About \$400,000,000 is now being planned for a six-track subway on 2nd Avenue, two tracks for super express, which will run from 149th Street to 42nd Street, a distance of 5.3 miles without a stop and connect with existing lines at each end speeding up service and enabling these existing lines to run up to capacity of 30 trains an hour.

The great headache of subway construction is the great maze of electrical conduits, gas and water and steam mains, in making the open cut excavations in city streets adjacent to the world's tallest buildings which must be kept from settling. With a satisfactory rapid method of getting to surface, deep tunnels would simplify it. Push button elevators are everywhere in New York except in subways. And escalators are too slow.

These open cuts are made without stopping traffic except half the width of the street and this only for a short time. Temporary soldier beams are driven along each side. For four, or six tracks, pits are dug in the middle of the streets to full depth and temporary columns of concrete, steel or wood floor placed. Half the street is excavated enough to place temporary wood floor to carry traffic. Then the same on the other half. Then the balance of the

excavation and sonstruction done under the floor without any interference with surface traffic. All gas, water, steam and conduits are restored. Those that can't be interrupted are maintained. All gas lines are removed to surface above the wood decking.

With reference to the profile of the Delaware aqueduct, now under construction, at reservoirs at mile 45, 70 & 85 there are double shafts. These enable the water to flow across reservoirs or bypass them through tunnel, with all the control gates at surface, the only vulnerable points for air attacks.

Flow in City Tunnel No. 1 and No. 2 is determined by numerous consumers. In the 85 mile tunnel, the lower end is left open to reservoirs and flow is controlled at upper end, where much of time gates are not wide open making water level in shaft much below reservoir. A total of 10,000 horse power could be developed at Roundont Reservoir (Shaft No. 1).

All shafts delivering water under pressure have an emergency valve 200 feet below solid rock which can be set to close automatically if a break in line causes a flow at which pilot tubes are set to operate the controls, or can be closed by hand. Either will close. Both are required to be in open position to open.

Tunnels were driven on an average of about 10 feet per shaft, generally 2 or 3 shifts a day. Mucking machines were used.

Crossing 600 feet under the Hudson River was perfectly dry but ½-mile west of the river, a flow of water was encountered and tunnel bulkheaded with concrete and grouted through drill holes, pilot tunnel driven and grouted from this and 1 inch thick steel shell placed for 1100 feet and concreted inside and out.

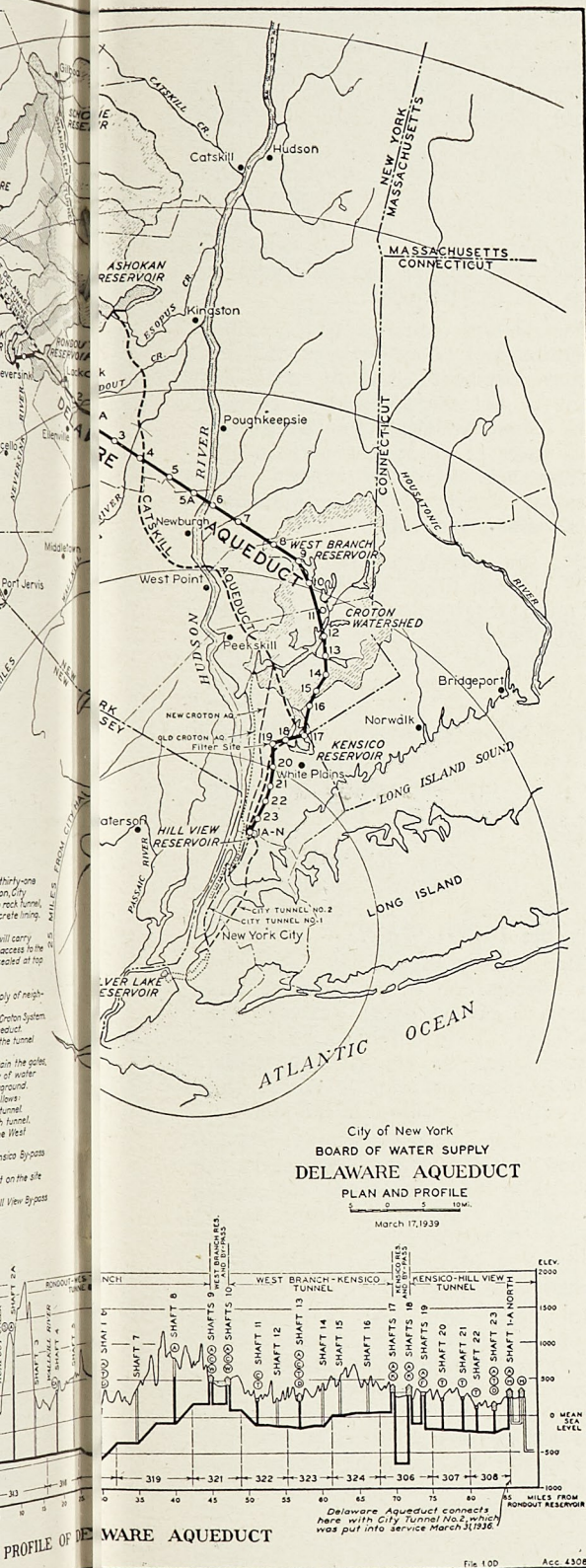
The same crossing Roundont Creek.

A deeper tunnel would have probably gotten below the slip which plainly shows at West Side of Hudson.

Shaft No. 2A acts as a vent to let out entrapped air, and for surge.

Through Shaft 6, 45 miles of tunnel can be pumped out which it is hoped will never be necessary; (It hasn't been yet in 30 years of continuous operation of the 5 mile tunnel)

(Continued on Page 11)



MISCELLANEOUS

Razzing "Longhairs"

(Continued From Page 5)

than one fairly tight subject. The fields are just too specialized.

In addition to the major branches of engineering, such as chemical, electrical, civil, mining, architectural, etc., we must reckon with their sub-divisions.

As is well known, each of the sub-divisions is so highly specialized that it would be difficult for one person to be on familiar terms with more than a small part of it. Here the theoretical physicist and mathematician must work in partnership with the engineers. The theorist should decide which kind of a practical specialist should be put to solving a given problem, or should divide it into separate fields of modern specialization, so that a person with experience in his own field will be put on the job. As example, a hydraulic engineer might not even know that a chemical problem might have two distinctly different divisions, such as pressure engineering and combustion engineering. Herein lies the important work of the theorist, who sees the whole field and can direct the problem to the properly qualified engineer.

Another statement in "Longhairs Vs. Hairy Ears" is to the effect that Dr. Frank B. Jewett and Prof. E. A. Guillemin are agreed that many improvements in engineering curricula are needed. They will find a great many engineers ready to support them in this needed reform.

The mediocre among the longhairs as well as the hairy ears have failed because they are short on knowledge and understanding of the basic sciences and mathematics, and particularly lacking in an extensive vocabulary of general and technical words. Their low-vocabularies limit them to a mediocre level of understanding and comprehension. One of the surest ways to get out of that undesirable class is to acquire not only an extensive general vocabulary but also an exact technical vocabulary of physics and mathematics, which, according to Alfred Korzybski (Science and Sanity, published by Science Press Printing Company) is the most structurally correct language in existence.

The research work of Johnson O'Connor on the vocabulary levels of various professions brings to our attention another indication of what may be lacking in many technically trained people. He has uncovered startling facts. For instance, if on general vocabulary tests the average 8th grade pupil scores 5 minus, and the major executive scores 95 plus, on this arbitrary scale the average level of vocabulary of college graduates will fall between 35 and 40; the average engineer between 45 and 50; the research worker between 55 and 60; the college professor between 79 and 84; and the major executive at 95 or above.

It seems obvious that it is not a college education that is the means of acquiring these high levels. In fact, a survey made by the Human Engineering Laboratory has shown that the majority of top executives in industry never went to college. This is just another argument for revamping the courses of study, particularly in the American language department of most educational institutions.

A low-vocabulary (insufficient thinking tools) may well be the difference between success and failure in tackling a problem even though one's talents and personality provide the ideal pattern for a particular job.

Johnson O'Connor, in "Psychometrics," a study in the human substance of industrial relationships, (published by Harvard University Press) also claims that an extensive vocabulary is a means by which a subjective person can become more objective in behavior and be successful as a salesman. On the other hand, salesmen, possessing a natural pattern for salesmanship, but with a low vocabulary, have a difficult time "making the grade."

However, referring again to the development of radar, the successful fruition of the work of the theorists and the engineers was due, unquestionably, to the efforts of the "cream" of these professional groups. Their capacities are on a par and they are equals in ability. No doubt they possessed high vocabularies.

Perhaps one of the important reasons for the apparent failure of

engineers, as "chalked" against them by the pure scientists, is not due to any lack on the part of the engineers. If the physicists and mathematicians would always keep in mind the theoretical nature of their work as apart from that of the engineer—who does a practical and utilitarian job for the benefit of society—we would not have these misunderstandings. The longhairs should not expect the hairy ears to step out of character.

Everybody cannot be a pure scientist, and of all persons, the objective engineer certainly does not want to be! Happiness and success most often accompanies the person who stays in character, and an extensive vocabulary of exactly understood words aids him materially all along the way.

So, the undergraduate would do well to keep these aptitude patterns in mind when choosing to join the longhairs or the hairy ears. Upon analyzing his talents, if he discovers that he lacks structural visualization he may find his best fitted job to be in some other profession entirely. It is "easy going" when one finds that his natural capacities are essential in the field he has selected. Trouble starts when one attempts a specific job without possessing the natural qualifications for that work. It can be done but only the HARD WAY.

The undergraduate, as well as the average or below average engineer might as well answer the challenge of the longhairs by a vast improvement in his thinking tools. This is the short cut by which he can raise his level of attainment.

As to all other engineers concerned in this razzing, since there is practically no difference in rank among the "cream" of both these groups of professionals, is it not time for the longhairs to molt their illusions of superiority?

In fact, had the hairy ears thought first of challenging the longhairs it might have been the other way about. After all, the thinkers of the world today recognize **the great individual** is the one who takes the ideas of others and develops them into something beneficial to mankind.

To the pure scientist: Did I hear you say SO WHAT!?

SPORTS

Football

(Continued From Page 1)

Engineers romped over Shurtleff College of Alton, Ill., although the score did not indicate so. The Miner first team rolled up a 20-0 score in the first half. Coach Bullman had the Miner second and third teams in for most of the second half. Shurtleff scored twice, while the Miner second stringers managed a safety. Final score, 22-13. However, Bullman was able to give his substitutes valuable playing experience which will pay off in some of the conference contests.

Remaining Home Games

Parents Day:

Oct. 16 (Sat.) 2:15 P. M.—Maryville Homecoming:

Oct. 30 (Sat.) 2:15 P. M.—Springfield

Nov. 13 (Sat.) 2:15 P. M.—Kirksville

At St. Louis, Mo.—Walsh Stadium
Nov. 20 (Sat.) 2:30 P. M.—St Louis University

Seeking Second MIAA Conference Title

Prior to the opening game last year, Coach Gale Bullman stated that the '47 Miners were the best team he had ever coached at Rolla. St. Louis University promptly beat us 61-0. So this year, Gale is making no predictions. But everyone else here in Rolla is. The consensus of opinion is that MSM is headed for its second MIAA Conference title.

With 24 lettermen returning, Bullman will have a seasoned starting lineup as follows:

Kennedy and Teas	Ends
Steele and Shourd	Tackles
Anderson and Roerman	Guards
Cox	Center
McGrath	Fullback
Kemper	Quarterback
Kwadas	Left Half
Whitney	Right Half

Bob Kemper, of Johnston City, Ill., and Jim McGrath, of St. Louis, Mo., Co-captains are both All-Conference selections and can be depended upon to do their share of ball lugging this fall. At left half, Ed Kwadas, of Benld, Ill., is expected to develop into one of the best backs of the conference. Dick Whitney of Roodhouse, Ill., and Earl Hoehn will share duty at right half.

MSM Grid Co-Captains



Jim McGrath, left, and Bob Kemper

New York Tunnels

(Continued from Page 9)

an 18 mile tunnel was driven to bring in water from the north side of the Catskills flowing toward the Mohawk River. Then an 18-mile tunnel was driven deep under the city through the Bronx, Manhattan and under the East River to Brooklyn with 22 shafts through which water is distributed to the mains in the streets. In 1936, a second deep tunnel was completed from Hillview Reservoir, where the elevation is 295 feet, 24 miles through the Bronx, Queens, and Brooklyn, connecting with the other one. When the war stopped construction, 85 miles of deep tunnel had been completed from Hill-

view Reservoir to bring a half billion gallons per day from the south side of the Catskills. Now the tunnel is being extended 31 miles and three reservoirs are being built.

They are thoroughly grouted outside the concrete lining, first under low pressure until nearby voids are filled making high pressure safe. The one inch steel shell was bulged by high pressure too soon in one case.

To get Catskill water across to Staten Island, from City Tunnels No. 1 and No. 2, one 36 inch and one 42 inch cast iron pipe with flexible joints were dropped out of the end of a scow into trenches dredged into mud bottom of the narrows.

ALUMNI PERSONALS

1912

Paul E. Coaske is living at 1575 Westwood Blvd., Los Angeles, Cal.

1914

Joseph C. Finagin has moved to 1725 East Turney Avenue, Phoenix, Arizona. Joe writes, "Son Joe and I have purchased this property, which we like very much. It is just outside of City limits, and if any of you get down this way, look us up.

Frank H. Winsor ex '14 gives his mailing address as 211 Cathedral Place, St. Paul 2, Minnesota.

1917

Harold T. Herivel is Metallurgist at Phelps Dodge Corporation's Concentrator at Morenci, Arizona. He has recently been elected a Member of A.I.M.E.

John Gay Reilly was recently appointed general manager of the Bayard Department of United States Smelting, Refining and Mining Company. His address is P. O. Box No. 698, Bayard, New Mexico.

1919

Mail will reach John M. Morris at P. O. Box 331, Rolla, Missouri. His home is 101 West 12th Street, Rolla, Missouri.

1921

Robert Illedge is a construction engineer for the Eagle-Picher Company, at their Hillsborough Plant in Illinois.

NOTICE—CLASS '23

The 1948 Homecoming will be your first and last chance to attend your 25th reunion. Don't delay—make your plans now to attend. See full Homecoming Program elsewhere in this issue.

The St. Louis Section has monthly luncheons on the second Friday of each month at the American Hotel, Market and 7th Street, St. Louis.

James Murphy is President of the St. Louis Section. Phone Jefferson 7277. Paul Dowling is Secretary-Treasurer of the St. Louis Section. Phone Main 6000.

1923

Harry Schiermeyer, who is the District Maintenance Engineer, for the State of Illinois Division of Highways, was on the MSM Campus, Saturday, July 31st with his son, who is planning to enroll for the fall semester.

George A. Zeller has moved to Hollister, Missouri.

Campbell R. Cameron was chosen to membership in the American Institute of Mining and Metallurgical Engineers recently. He is employed

as general superintendent of the Coal Mines, Lone Star Steel Company, McAlester, Oklahoma.

Virgil Whitworth has returned recently from foreign service and is presently living in Houston, Texas.

1924

Carlos G. Bowers of La Paz, Bolivia was a New York visitor during the summer. He is Manager of Compagnie Aramayo de Mines en Bolivie.

Claude L. Kemper, Assistant Manager of the same company is being moved to the New York office in September. Both Bowers and Kemper are Life Members of the Alumni Association.

1925

Homer H. Heidtman's new address is 409 Jackson, Macon, Missouri.

1927

Roy J. Gunther is living at 48 Rutland Street, Mt. Kisco, New York. Roy writes concerning possible admission of his son, Jim, to MSM for Sept. 1949.

Robert F. McCaw, who is Plant Manager, of the Engineering Department, of R. C. A., Camden, New Jersey, spent August 3rd to 6th in Rolla, visiting his mother, Mrs. Blanche McCaw.

1928

Jerry Donaldson was in Rolla on vacation, the first two weeks of August. Jerry's address is 281 East Kelso Road, Columbus 2, Ohio.

O. D. Niedermeyer's address is Elba No. 9, Depot. C, Mexico, D. F., Mexico.

William K. Schweickhardt was recently elected to membership in the American Institute of Mining and Metallurgical Engineers. He is employed as District Sales Manager, Walsh Refractories Corporation, Chicago, Illinois.

1929

George W. Talley is superintendent of Manufacturing, of Cutler-Hammer, Inc., manufacturers of Electric Motor Control. George's address is 182 North 91st Place, Milwaukee 13, Wisconsin.

1930

Edward Meeka has moved to 5498 East Evans, Arapahoe County, Colorado.

Booker Hall Rucker, Jr., spent his vacation in Rolla, the early part of August. His address is 617 North Byers, Joplin, Missouri.

Eugene Woodman, his wife and

two children were on the campus on June 22. Eugene is Chief of Instrumentation Branch, U. S. Waterways Experiment Station, Box 631, Vicksburg, Mississippi.

1932

Major Arthur J. Hoeman, has been moved to the Ordnance School, Aberdeen Proving Ground, Maryland.

James K. Richardson who is manager, Utah Mining Association with offices in Salt Lake City, has applied for admission to the Mining & Metallurgical Society of America.

1933

Curt Henry Schmitz is living at 1038 Everding Street, Eureka, California.

William W. Kay is a new member of the American Institute of Mining and Metallurgical Engineers. Mr. Kay is sales representative for E. I. DuPont de Nemours and Company at Wilkes-Barre, Penna. His home address is 201 Pierce Street, Kingston, Penna.

1934

David P. Hale, who lives at 960 Leyden, Denver 7, Colorado, was a visitor on the campus, August 5th.

Mason B. Larwood was a visitor on the campus August 9th. Mason is with the Dept. of the Army, Office of the QM General, Chief, Materials Section, Industrial Mobilization Branch, Military Planning Division, Washington 25, D. C. His home address is 7758 Emerson Road, West Lanham Hills, Hyattsville, Maryland.

1935

James J. Murphy's address is 6170 Pershing Avenue, St. Louis, Missouri.

1936

John F. Campbell has moved to 4316 21st Road, South, Apt. No. 2, Arlington, Virginia.

Marshall R. Spahr has been transferred to the newly opened Corpus Christi District Office, of the Stanolind Oil & Gas Company. He is at present serving as the attached senior geologist, and his new mailing address is 230 Norton Drive, Corpus Christi, Texas. He writes, "Would certainly appreciate seeing any and all "miners" wandering through this part of the country."

Neil Plummer is a new member of the American Institute of Mining and Metallurgical Engineers. Neil's present position is experimental engineer for Kennecott

MSM Alumnus

ALUMNI PERSONALS

Copper Corporation, Salt Lake City, Utah.

1937

Marshall W. Taylor was in Rolla, on vacation, August 11th. Marshall is with Kirkwood & Morgan, Inc., Box 1490, Alice, Texas.

Ross R. Carrola, civil engineering graduate, is with the International Bechtel Company, Arabian Division, Dhahran, Saudi Arabia. This company is a consolidation of several American firms and it is doing work for the Bahrein Petroleum Company, the Trans-Arabian Pipe Line Company, the Kuwait Oil Company, and the Kingdom of Saudi Arabia. Ross reports the country to be extremely hot but he writes that the company has gone to great lengths to provide excellent housing, air conditioning and recreation facilities.

Kenneth F. Sheckler is employed at the Redfield Brick and Tile Company, Redfield, Iowa. Kenneth has written us that he has three daughters, Carol, Kathryn and Jean.

1938

James D. F. Evans has resigned from his position of Mine Superintendent, Minas de Matahambre, Pinar del Rio, Cuba and may be reached at 508 South Broad Street, Thomasville, Georgia.

Melvin E. Nickel was in Rolla on vacation, and was a visitor on the campus Saturday, July 31st. Mel is assistant Superintendent, Blast Furnace, of the Wisconsin Steel Company, in Chicago, Illinois.

Allen Dodd Bliss is residing at 5151 Alcoa Avenue, Los Angeles 11, California.

1939

Richard R. Hynes writes he is with the Westinghouse Electric Corporation, as a Sales Engineer, travelling out of El Paso. His present territory is primarily in the northern part of New Mexico around Albuquerque, Santa Fe, etc. In addition he has a few customers located out in the west end of Texas on this side of the Pecos River. The only MSM Alumnus he has run into out in that section is G. Perry Steen, '33, who is in the Civil Engineering Department at the University of New Mexico, and Bill Rollman, '30, who is a Central Station Engineer for Westinghouse located at Dallas.

Edward E. Elliott is living at 212 Victoria, Montebello, California.

Magazine

1940

Joseph M. Coon has moved to 540 Minota, Springfield, Missouri.

1941

Floyd P. Smith is branch manager of the Flora Engineering Company. His address is Post Office Box 42, Anchorage, Alaska.

Franklin B. Rogers is living at 1501 Collins Avenue, Richmond Heights, Missouri.

1942

Kenneth A. Roffman, who is employed as sales manager at the Westerlin and Campbell Company in Detroit, Michigan, writes that his home address is 19051 Trinity, Detroit 19, Michigan. He and Mrs. Roffman are planning a visit to MSM in October.

Anthony Homyk, Jr., visited the campus Sept. 2. He was on vacation from his job with the U. S. Geological Survey at Indianapolis, Ind.

William F. McConnell has changed his address to 10001 Harnew Rd., West, Oak Lawn, Ill.

Nick Nicola, who is with the Cunniff Construction Company, and lives at 4337 Laclede Avenue, St. Louis, Missouri was a visitor on the campus, Aug. 2nd.

1943

Alvin L. Meyer received the degree of Master of Science, in Civil Engineering, (Sanitary Option) in June, at the Georgia School of Technology. He attended the graduate school there under a fellowship grant from the National Foundation for Infantile Paralysis. Immediately after graduation, he was transferred to duty with the California Department of Public Health, Bureau of Vector Control. His position is that of supervisor of typhus-plague activities in the southern half of the state. His business address is 703 State Building, Los Angeles, California, and he lives at 3166 Banning Avenue, Lynwood, California.

Francis M. Krill is with the Permanente Metals Corporation, Trentwood Works, Spokane 6, Washington.

James G. Henderson was in Rolla on vacation, August 11th. Jim is Engineer in Charge, Minas de Matahambre, S. A., Matahambre, Pinar del Rio, Cuba.

Robert P. McMath is back in the army, and is at present on a competitive tour for an RA commission. He writes Howard Durham is also

there, and is also on a competitive tour. Bob's address is: Lt., Co. C, 5th Engr. C Bn., Fort Lewis, Washington.

Morris E. Allen has moved to 202½ North Center Street, Reno, Nevada.

Edmund C. Burke is living at 2105 Main Street, Bridgeport, Conn.

Frank Rehfeld was a visitor on the campus, August 14th. Frank is living in De Smet, South Dakota, where he is in the construction business.

Mr. Norman Robert Underhill, B. S., is now residing at 8425 259th Street, Floral Park, Long Island, New York.

1944

The new address of Donald W. Frommer is 13991 Freeland Avenue, Detroit 27, Michigan.

Austin Eugene Daily has moved to 3706 North 38 St., Omaha 11, Nebraska.

Sanford L. Simons is a consulting engineer, and lives at 221 East Maple Avenue, Denver 9, Colorado.

1945

Roy H. Boyd, writes, "I enjoy reading the publication concerning M.S.M. and its graduates.

At present I am a hydrologic engineer for the Bureau of Reclamation, Kansas River District. This district covers parts of Colorado, Nebraska, and Kansas, and is an integral part in the overall plan of development of the Missouri River Basin."

1946

Kay K. Ikeuye and his wife were visitors on the campus, August 5th. Kay's address is 5483 South Ellis, Chicago 15, Illinois.

1947

George E. Purdy, whose address is 613 City Hills Drive, Webster Groves, Missouri, was a visitor on the campus, August 11th.

Charles G. Brent is assistant project engineer on a new refinery project being constructed at Hawthorne, California with the Flour Corp., Ltd. Charles writes that his work is interesting and he is kept busy on an important project.

1948

Jim Hoelscher's address is 702 North Jefferson, Robinson, Illinois.

Earle G. Parmenter is with Black & Veatch, Consulting Engineers, of Kansas City, Missouri.

Robert F. Hartmann's address is 13156 Meyers Road, Detroit 27,

ALUMNI PERSONALS

Michigan.

Robert H. Appelbaum, Junior Subsurface Geologist, Shell Oil Company, at Shreveport, Louisiana, has been elected a Junior Member of A.I.M.E.

Wilbern L. Weddle's mailing address is 130 Hudson Ave., Cone Station, Weirton, West Virginia.

Dale Keith Russell's mailing address is Livingston, Wisconsin.

Floyd Anderson Ellison is with the Union Producing Company, Beeville, Texas, working as a geological scout.

Captain Sherman E. Ellis' mailing address is 2524 Elmood, East Ann Arbor, Michigan.

Walter F. Anderson is living at 118 Herold Street, Peoria 5, Ill.

Mathuramuthoo Subramanyam, Inspector of Mines and Explosive, Oorgaum Post, South, India, writes that he took a six months tour of England and other parts of Europe after leaving the States, and inspected several mining areas on the trip. He also reports that his official position is likely to change soon.

Elmo G. Lindquist gives a new mailing address as Box 314, Route 6, Jackson, Mississippi. He recently accepted a position as engineer in charge of a booster station being constructed 17 miles from Jackson.

Delbert L. Garthwaite has been employed recently by the Stanolind Oil and Gas Company in the producing department at Thermopolis, Wyo.

Donald J. Mathews, graduate in Mechanical engineering, is with the producing department of Stanolind Oil and Gas Company at Ellinwood, Kansas.

Robert A. Prokes has changed his mailing address to 2509 Tyrrell Drive, St. Louis, Missouri.

Aubrey B. Watts is working with the Army Engineers on the Chain of Rocks project. His address is 1107 North 18th St., East St. Louis, Illinois.

Lloyd A. Rains, electrical engineering graduate, is employed with the International Business Machine Corporation in St. Louis. He gives his home address as 217 Lami, St. Louis, Missouri.

William Edward Simpkin is an instructor in the Mechanical Engineering Department at MSM. He is living at 1307 Spring Avenue, Rolla.

John D. Earls' whose home address is 827 West Central, Springfield, Missouri, is an instructor in Mechanics, Missouri School of Mines & Metallurgy, Rolla, Missouri.

John Griessen has accepted employment with Phillips Petroleum Company, Tessa, Texas. His home address is Route 3, Sedalia, Missouri.

Harlan D. Smith is with Harbison Walker, Fulton, Missouri.

James R. Jambor is working for Missouri State Highway Dept., Kirkwood, Missouri. His address is 1314 Haley Avenue, Ferguson, Missouri.

William B. Murney, Jr., is employed by the Hussman Refrigerator Service, St. Louis, Missouri and lives at 4919 Finkman, St. Louis 9, Missouri.

The Class

Odus L. Fronabarger has accepted a position with Roberts and Schaefer Company, Chicago, Illinois. He has been assigned to a construction job in the coal fields at Delbarton, West Virginia.

William M. Parkinson is with the Schlumberger Oil Well Surveying Company and is located in Houston, Tex.

Edward L. Brundige is now employed by the General Electric Company, Schenectady, New York. Edward informs us his position is that of Assistant Research Associate in the Metallurgical Research Department. His is working on the Atomic Power Project.

Robert H. Appelbaum, Junior subsurface Geologist, Shell Oil Co., at Shreveport, Louisiana has been a Junior Member of AIME.

Charles M. Mitchell is working for the Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin. His Mailing address is 717 South 8th Street, Oxford, Miss.

Bob. L. Mornin is a graduate student at MSM. His address is MSM Apt. Q-1, Rolla, Missouri.

Winston C. Moss gives his address as 335 South Eucalyptus,

Inglewood, Calif.

Monell E. Needham who lives at 6331 Delmar, St. Louis, Missouri, is working for the Glen L. Martin Company, Baltimore 3, Maryland.

Joseph Joja's address is 17815 Klenger Street, Detroit, Michigan.

Irving C. Falk gives his mailing address as P. O. Box 312, New Providence, New Jersey.

Robert F. Boswell is working for the Phillips Petroleum Company, and his address is 314 East Colorado Avenue, St. Joseph, Missouri.

Byron W. Andrews' address is Route 4, El Dorado, Arkansas.

Tryggve Smedslan's address is Grindafjord vis Haugesund, Norway.

Robert P. Rauch who is working for McDonnell Aircraft Corporation, Robertson, Missouri, lives at 5319 Pershing, St. Louis, Missouri.

Wilden D. Rodden whose address is 510 Cincinnati Street, Muskogee, Oklahoma, is employed by the Arkansas-Missouri Power & Light Company, Blytheville, Arkansas.

William C. Rous, Jr., is doing graduate work at MSM. His Rolla address is MSM Apt. S-8.

Alfred H. Shepher, Jr., lives at R.F.D. No. 2, Mt. Vernon, Missouri, and is working for the Aluminum Company, 3300 Missouri Avenue, East St. Louis, Illinois.

Homer T. Shepherd, Jr., gives his mailing address as Soest Road, Rolla, Missouri.

Curtis W. Sphar is employed by the Missouri Pacific Railroad, 1700 Missouri Pacific Building, St. Louis, Missouri. His home address is 341 North Division, Du Quoin, Illinois.

Mail will reach John W. Wallace, Jr., at 107 East Taylor, Caney, Kansas.

R. Allen Crosby's new address is 6615 Ellis Avenue, Chicago, Illinois.

Ely Schwartz's address is 701 West 13th Street, Rolla, Missouri.

Chester Ray Holland who received his Master's Degree at Commencement, July 29th, is teaching in the Physics Department at MSM. His address is 203 Oak Street, Rolla, Missouri.

Robert Flynn, whose home address is 920 Ridenbaugh Street, St. Joseph, Missouri, is working for the Carnegie-Illinois Steel Company, Gary, Indiana.

William J. Grady Jr., lives at

MSM Alumnus

ALUMNI PERSONALS

6120 Garesche Avenue, St. Louis, Missouri.

John F. Rankin is working for the Ohio Oil Company and lives in Lovington, Ill.

Walter C. Harbison's address is R.F.D. No. 2, Carthage, Missouri. Walter is employed by Allis-Chalmers, of Milwaukee, Wisconsin.

Joseph T. Hepp is working for Wagner Electric Corporation, 6400 Plymouth Avenue, St. Louis, Missouri. His address is 212 Avery Drives, Kirkwood 22, Mo.

George E. Hess has accepted a position with the Carnegie Illinois Steel Corporation, Gary Illinois. His address is 807 East 6th Street, Rolla, Missouri.

Theodore R. Howell is with the A. P. Green Fire Brick Company, Mexico, Missouri. His home address is 8825 Powell, Brentwood, Missouri.

Charles C. Johnson whose address is Fayette, Missouri, is working for the Missouri State Highway Department, Div. 5, Jefferson City, Missouri.

Gerhard E. Joffe has been elected to junior membership in the American Institute of Mining and Metallurgical Engineers. Gerhard is employed as an engineer for the Schlumberger Well Surveying Cor-

Theodore Kinsman is employed by the Missouri State Highway Department, Div. 3, Hannibal, Missouri. His mailing address is 101 N. Meaden, Royalten, Illinois.

Harry W. Kuhn's address is 314 South Hanley Road, Clayton, Missouri.

Herbert George Landy's home address is 900 Melvin Avenue, Racine, Wisconsin.

Carroll Lee Ledbetter whose home address is 104 Chestnut Street, Flat River, Missouri, is working for the St. Joseph Lead Company, Bonne Terre, Missouri.

John W. Likens is with the Phillips Petroleum Company. His address is 404 Sunset, Cape Girardeau, Missouri.

John F. McCarthy gives his mailing address as 1231 Hamilton Avenue, St. Louis, Missouri.

George E. McCormack is employed by Hatfield-Campbell Creek Coal Company, Rensford, West Virginia. His home address is Box 83, Davidson, North Carolina.

C. L. McGehee has a fellowship at Iowa State College, Ames, Iowa.

His home address is 2216 Pennsylvania, Joplin, Missouri.

Ralph E. McKelvey who is employed by the Timken Roller Bearing Company, Canton, Ohio, lives at 601 West 5th Street, Sedalia, Missouri.

Charles L. McKinnis, Jr., who gives his mailing address as Star Route, St. Mary's Missouri, is employed by the Pittsburgh Plate Glass Company, Research Laboratories, Creighton, Pennsylvania.

Jacques H. Marchal's address is La Floride, Saint-Servan Sur Mer, Ille Et Vilaine, France.

Jesse M. Conyers gives his mailing address as 54 Green Acres, Rolla, Missouri.

David Francis Flota is working for the Sahara Coal Co. in Harrisburg, Illinois.

Carl J. Hechinger is living at 2103

of 1948

Bremen St., St. Louis, Missouri.

William H. Thurman is with the Missouri State Highway Department and his mailing address is 1112 West Van Horn, Independence, Missouri.

Michael James Delany's mailing address is 5225 Wabada Ave., St. Louis, 13, Missouri.

Winston F. Bott is working for the St. Louis District of the U. S. Engineers in St. Louis, Missouri. His home address is R. D. No. 2, Lisbon, Ohio.

Alvin Howard Shwartz gives his address as 508 Rockdale Ave., New Bedford, Mass.

Vernon R. Lawson has accepted employment with Horton & Co., Consulting Engineers, Lamar Missouri.

Samuel P. Halcomb is working for the Missouri Highway Commission in Advance, Missouri.

James W. Billard is employed by the Texas Company in Wichita, Kansas. His mailing address is 1810 6th St., Peru, Illinois.

Roger E. Nowlin paid a visit to the campus recently. He is employed by the Sheffield Steel Company, Kansas City, Missouri. His home

address is Concordia, Missouri.

LeRoy Fuller visited in Rolla during September. His address is 113 Saranac, Youngstown, Ohio.

John William Wallace is now with the U. S. Corps of Engineers, Kansas City District, Kansas City, Missouri.

John H. Cox is employed with the Works Control Laboratory, Babcock and Wilcox Company, Barberton, Ohio.

Harry Kuhn is employed with the Williams Patent Crusher and Pulverizer Company, St. Louis, Missouri. He lives at 314 South Hanley Road, Clayton 5, Missouri.

Joseph Soja writes that he is employed by the Ladish Drop Forge Company of Milwaukee, Wisconsin. His home address is 1621 West Wells Street, Milwaukee, Wisconsin.

J. Ware Fitzpatrick gives his mailing address as 2914 East Colfax, Apartment 10, Denver, Colo.

Tad Kawaguchi writes that he recently attended the "Quality Control and Statistical Analysis School," a nine-week training course, sponsored by the Republic Steel Corporation. His present address is Y. M. C. A. 330, 2200 Prospect Avenue, Cleveland 15, Ohio.

Robert Allen Crosby is a new junior member of the American Institute of Mining and Metallurgical Engineers. His present position is metallurgist, trainee, Carnegie-Illinois Steel Corporation, South Works, Chicago, Illinois.

Milestones

(Continued From Page 7)

fraternity, is vice-president of the St. Louis Hardware Manufacturing Company, in St. Louis, Missouri.

After a wedding trip to Colorado, the pair will live at 6352 Bancroft Avenue, St. Louis, Missouri.

MILLER - CALIHAN

Miss Martine Mary Calihan, daughter of Dr. and Mrs. Walter A. Calihan, became the bride of Harold C. Miller '39 in Rochester, New York on Sept. 18. The bridegroom was graduated from Missouri School of Mines with a B. S. degree in electrical engineering. He is Chief Engineer of the Charles Hardy Incorporation, 420 Lexington Avenue, New York City.

Plan Now to Attend

MSM HOMECOMING

OCTOBER 29 - 30, 1948

Features:

Football — Miners vs. Springfield State

Informal Gathering — Pennant Tavern,

Where You'll Meet Your Old Classmates.

Annual Banquet — Edwin Long Hotel.

Alumni Association Meeting.

Homecoming Dance.

(For specific dates see program on Page 1.)

Missouri School of Mines