Engineers' Edition

The Weekly Exponent

VOLUME XVII. BOZEMAN, MONTANA, WEDNESRAY, MARCH 17, 1926 NUMBER 25

New Features Mark Program For Gala Engineers' Day at Montana State College

Banquet Is Being Held Instead of Usual Dance. Program Promises Interest

Today is the day looked forward to by all the "college" students even though it might hold no interest for the members of the minor branches of the school. The Jewish engineers will probably nonchalantly tap their keyboards and the cows will stay down at the barns.

Instead of the usual dance, a banquet is being held at Kramer's Banquet Hall at 6:30 and from the advance sale of tickets as well as the talk of the stunt committees this event promises to eclipse anything of the kind ever attempted in Bozeman before.

It might be interesting to analyze the minds of the originators of the idea, practical or absurd, that St. Patrick was an engineer in the modern sense of the word. The dictionary defines an engineer as one who carries through a scheme by skill or astuteness. We wonder whether it was skill or astuteness on his part that gave him the power, or ability, to marshal such a strange following as snakes and toads and make them obey his command to disappear into the sea. Might we not compare this feat with the laying of the transcontinental cable for the dissemination of scandal and other items of international interest. His evangelizing of the Irish nation might also parallel the conquest of the Zingarella marshes by some enterprising civil.

The Electricals might take a tip from the Saint and instead of lighting their way to glory they might do as he did, for "he confounded his enemies by bringing darkness on them."

Perhaps he built a pit for the snakes to fall into or a gain it might have been a bridge that he designed for the remarkable crossing of the snakes into the briny deep. In either case he must have known something of Excavations or Roofs and Bridges.

The Chemists claim that he concocted some subtle perfume with which he lured them to their destruction, and then again the Electricals say he shocked them, but here we might question his efficiency. Would it not have been better if he had hired some of our fair co-eds with their "gob" trousers?

An incentive for all Engineers, be they Civil, Chemical, Electrical, or Mechanical, is to do their life work so well that as in the case of the illustrious Saint "at his death so great was the glory that there was no night for twelve days."

LAB COURSES LIMIT TIME FOR ACTIVITIES

In Spite of Full Schedule Engineers Are Active In Campus Life

Everyone grants as a fact the statement that the Engineering courses are the hardest of courses that Montana State has to offer with such subjects as analytical geometry, calculus, statics, mechanics of materials, hydraulics, and then the afternoons in the laboratory with the electricals, mechanicals, industrials and chemical engineers, and the afternoons in the field with the civils running surveys where accuracy is paramount. It does not leave much time for "us" engineers to think of activities, and especially along athletic lines.

Does that fact interfere with the part the engineer plays in the activities of the college? No, it does not. Many are the engineers who have gone down the football field when it was already growing dusk after a 5 o'clock lab. to put in a few hours of hard practice. This year the engineers are proud to boast of five lettermen on the football squad, including a mighty fine captain. There were eleven engineers on a track squad of twenty last spring and this year's captain is an engineer.

How do the engineers stand when it comes to publications? It is a "stand off" this year as far as editors are concerned. The Montanan is being edited by an engineer and the Exponent by an Ag. More staff members of these publications, however, are registered in the College of Engineering than in any other college on the Hill. This year's Montanan must be well upon its way as a real book considering the fact that the editor received a letter from the Bureau of Engraving stating that our opening section is among the best and that the bureau wishes to use it for advertising purposes along with sections from such prize winning books as the Gopher, Badger, and

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LIFE OF INDUSTRIES BASED ON RESEARCH

PURE SCIENCE CROWDED BY ACTUAL APPLICATION

Every Scientific Discovery Is Followed Within Few Months By Use in Industry

In no field of human endeavor is pure science being crowded so closely by actual application to life as in the field of industry and engineering. Every scientific discovery is followed within a few months by some commercial application to industrial and engineering advancement. The large industries of the nation find that their life depends upon organized research. Many industries now expend millions of dollars each year upon their research organizations. Smaller industries which can not afford such organizations are, therefore, placed at a decided disadvantage in the struggle for survival.

In the last 10 or 15 years one half of the states have established engineering experiment stations to serve the smaller industries and to attack problems of industrial development which are of general concern to the life of a state. An Engineering Experiment Station for Montana was created by the State Board of Education in 1924 in conjunction with the College of Engineering at the Montana State college. The facilities of the College of Engineering in the way of scientific staff and equipment are thus placed at the disposal of the industries of Montana for the attacking of their scientific problems. The Engineering Experiment Station has made a number of tests for industries of Montana upon their products so that they may know now

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THERMOSTAT, CHEM. LAB

ENGINEERING IS LARGEST SCHOOL

Has Rapid Growth in 25 Years Existence

The College of Engineering was organized at Montana State College in 1896 three years after our institution was founded. During this year, 1896-97, there was one Sophomore and two Freshmen registered. In the entire institution there were sixteen students registered in four year college courses, with one hundred and forty-eight registered in special and preparatory courses.

The following term there were four Freshmen and one Junior. The next year, 1898-99, saw the first graduate in engineering. Frank B. Williams from Wickes, Montana receiving his B. S. in Mechanical Engineering was the first man to get his sheep skin from this department. Williams is now Engineer for the Orphans Home in Twin Bridges.

The second graduating class was in 1902 and included one Mechanical and two Electricals. The class of 1903 was a victory for the Civils. Four Civils and one Electrical receiving degrees.

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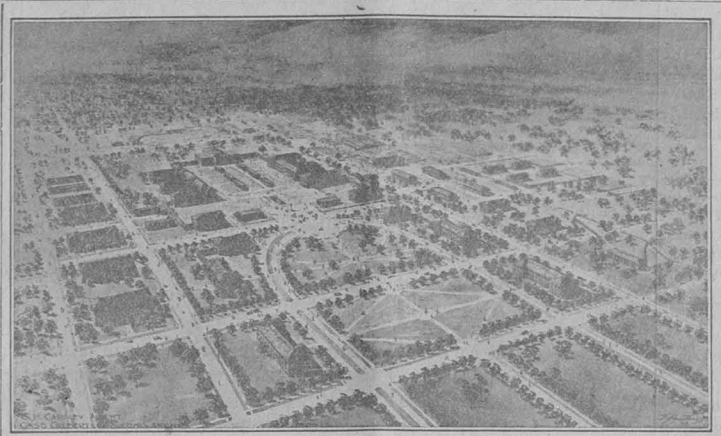

FUTURE CAMPUS PLAN

PICTURES

C. G. A. Group picture will be taken Sunday, March 21, 1926, at Schlechten's old Central Studio above Mull's store at 10:00.

The Montanan Staff picture will be taken at the same place at 10:15.

NEW CAMPUS PLAN WILL BE FOLLOWED

Provision Made For Placing Future College Buildings As Funds Allow

CASS GILBERT PLAN

In the plans for the development of the campus at Montana State college, the college of engineering has been assigned five blocks of ground lying between Sixth and Seventh Avenues and extending from Cleveland Avenue on the north to Lincoln Street, the southern boundary of the campus, on the south. Through the center of this plot from east to west runs Garfield Avenue which will be made into a boulevard and is the east and west axis of the campus. The present engineering building faces this axis looking toward the north.

The further development of buildings in the engineering group contemplates first the completion of the shop and laboratory building to house those units which are still in the old engineering building and the old shop building. This plan will require at least three more units of the shops to be built south of the units already constructed extending back toward the heating plant. On the shop side of the corridor will come, in order, an addition to the machine shop, a foundry and a blacksmith shop. On the lobratory side the next unit will be divided between the electrical laboratory and the setam engineering laboratory. Then comes the main steam laboratory and next beyond that the hydraulic laboratory.

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JOBS FOR ENGINEERS

WICKENDEN POINTS OUT FACTS ABOUT PROFESSION

"Do we need better Engineering education?" asked Mr. William E. Wickenden in a recent address before the engineering student body of Montana State college.

In response to this question Mr. Wickenden, director of investigation for the "Society for the Promotion of Engineering Education," has made a very thorough study of the actual facts and conditions as they exist today. From this study, statistics and facts from over five thousand engineering graduates have been compiled.

Many reports are circulated that the Engineering field is over crowded now and that there is no future in Engineering. Actual facts show no indication of an over-supply of graduates. Only one-fifth have occasion to seek positions through their own efforts, or through agencies or advertisement. There is a position waiting for each and every engineer as soon as he graduates. The engineer does not have to hunt the job, for many positions are looking for engineers. The future in Engineering is better than in the past. Starting salaries of today are on a par with those of 15 years ago, allowing for changes in the value of the dollar. Two-thirds remain in the field of engineering for which they were trained in college or in a closely allied field. Earning power of graduates rises steadily.

Relationship of fields of work to college courses shows the sums of the percentages of graduates working in the same fields or allied fields for the five major divisions of engineering as follows:

Civil Engineering 83.3 per cent.

Electrical Engineering, 75.3 per cent.

Mechanical Engineering, 52.9 per cent.

Chemical Engineering, 55.0 per cent.

Mining Engineering, 50.5 per cent.

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WHAT'S WHAT

In The College of Engineering

Engineering and industrial authorities estimate that 800,000 engineers will be needed in the next decade, while engineering schools of today are turning out a bare 10,000 each year. To train more men for this expanding profession Montana State college has built up a department of engineering that is recognized throughout the United States as one of the strongest in the west. Standard four year courses are offered in architectural engineering, chemical engineering, industrial chemistry, civil engineering, electrical engineering, industrial engineering, mechanical engineering and engineering physics.

As is the accepted practice throughout the country the courses of instruction at Montana State college place particular emphasis on a thorough grounding in the principles upon which all engineering is based. Technical knowledge and current practice in engineering supplement the basic courses. Field, shop, and loboratory methods are taught the student with a view of adding sufficient practical experience to the course so that the graduate may not enter the practicing profession handicapped as has been criticized frequently.

Civil Engineering

The civil engineer remodels the earth to suit our peculiar needs. Canals, dams, tunnels, bridges, highways, and wharves—all constructed under the planning and supervision of the civil engineer make for the progress of civilization. In addition to a thorough grounding in the prin-

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HER HERO!

"You Smell so Athletic" She Sighed Adoringly

She had read that college athletics were the paragon of animals, and that they were so big and powerful and noblue. She wanted an athlete. She came to college. When she saw one her oesophagus tied two bowknots around her epiglottis. She would follow him and see what he did. Oh my, he walks so rapidly he almost runs. She began to trot lest she lose sight of him, for he had disappeared into the House of Many Odors.

She entered. Her jaw dropped. He was gone. How could she find him because the building was simply alive! It teemed. People were rushing up and down the staris carrying everything. They had bottles, flasks, jugs, rubber tubing, glass rods, towels, evaporating dishes, test tubes, funnels, etc. ad infinitum.

She bumped into someone. There was a tingle of glass and a loud bad word. She looked up, and there stood a huge potato faced man with great hairy arms and beetling brows glaring down at her. How magnificent! She feigned innocence.

"Just looking around," she said evasively.

"Want me to show yuh round."

"Oh that would be so noble."

They were off.

"You smell so athletic," she sighed adoringly.

"Not at all. Just comouta chem lab."

They walked on in silence. He must a chemist.

"——An here's where the Aggies cook up hay to see how much protein its got."

"How droll! It looks so rustic. An is this what you do-"

"Who me?" He glared down at her. She narrowly averted the calamity by

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TAU BETA PI SOON TO BE INSTALLED HERE

SIGMA EPSILON LOCAL WILL RECEIVE CHARTER

National Fraternity Has Large Membership Including Many Eniment Engineers

Tau Beta Pi was founded at Lehigh University, South Bethlehem, Pa., in 1885 to fill the need of an honorary society for engineers. At that time Phi Beta Kappa was the only honorary fraternity and recognized scholastic attainments only in culture and liberal arts.

Tau Beta Pi has continued to expand until it is now represented at all the prominent engineering schools in the country with a total of forty-eight chapters, and two more to be added with the installation of a chapter at the University of Oklahoma and at Montana State College

The fraternity has a membership of over 13,000, representing a great majority of the eminent engineers in the United States There are two classes of membership, active mem-

(Continued on Page Four)

DEAN E. B. NORRIS

M. S. C. GRADUATES ARE MAKING GOOD

Engineers Hold Positions Of Responsibility

As those who graduate carry the reputation of our Alma Mater, we are constantly watching them with our so called third eye. So far as following their vocations is concerned Montana State engineers rank well up among the highest as there are 90.5 per cent of the graduates who continue their engineering work. This leaves but 9.5 per cent in other lines; truly a small number out of the 297 who have reveived their degrees in this department. Other states claim most of our graduates in engineering. Only 40 per cent of them locate in Montana while the remaining 60 per cent are scattered around the rest of the country. The various companies and institutions have most of the men, and the number with each is very nearly the same Of the cities Los Angeles has the most in her employment with six. The other employers of Montana State engineers are:

American Telegraph & Telephone Co.	23
Montana Power Co.	9
General Electric Co.	19
Westinghouse E. & M.	23
Anaconda Copper Mining Co.	9
Chicago, Milwaukee & St. Paul R. R.	12

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WEYDEMEYER, PARKER DEBATE ST. CHARLES

Argue Repeal of Eighteenth U. S. Amendment Before Interested Crowd

NO DECISION

Last Friday evening Montana State's debating team consisting of Donald Wedemeyer and J. Franklin Parker met the Mount Saint Charles team in the latter's gym at Helena in a non decision contest on the question "Resolved that the Eighteenth Amendment to the United Sates Constitution be repealed." The debate was attended by a fair sized crowd and the speeches were applauded by the audience in a vociferous manner. Montana State upheld the negative of the question and argued that the present regime was the proper one and would lead to the best results. On the other hand the Saints debators found fault with the present system and pointed out the era of crime and lawlessness with contempt and disregard for law that has followed in the wake of prohibition.

The question is one of the most interesting that has been debated in recent years and is arousing a great deal of discussion wherever held. Moreover the open forum style of debate, such as is followed, admits of no decision and allows for short remarks by the audience at the conclusion of the debate In short, debating, following the English system, is coming more and more to be a popular affair and a means of acquainting the masses with the vital topics of the day in an interesting and forceful manner. We can now look forward to the day when debates will be one of the many popular institutions of our American type of instruction and when the interest aroused by them will rival athletic contests.

ENGINEERING ADVANCES WHEN SCIENCE PERMITS

Tendency for World Leadership Depends Upon Science and Its Applications

Engineering and Science advance hand in hand in the present day when our economic order is based on the utilization of the stores of matter and energy in nature for the service and convenience of mankind, and on the orgaization of huma effort for this purpose.

In the historic times in Egypt the sciences were studied and scientific research was stimulated, but Engineering had not come into existence. The first recognized Engineering was developed in Ancient Rome, when the keynote to that empire was military power. This was scientific knowledge of a practical kind and was used by the military authorities in the development of arms and the construction of roads. During the middle ages when art flourished and literature expanded, Engineering made very little progress. Production remained in the hands of crafts and guilds.

The present era, essentially an engineering age, dates from the introduction of the steam engine one hundred years ago. This permitted steam for power and the industrial revolution followed, out of which evolved the factory system and the advancement of engineering. The growth of steam power for factories brought into existence the Mechanical Engineer, trained in workshop and factory.

Manufacturing on a large scale is essentially Engineering itself. This is shown by the same need for scientific study of principles and basic materials used in both and by the careful and thorough design necessaary in industry today to eliminate waste of material, plant, or labor. Experience or skill needed for engineering work is practically the same as that needed in our present industrial world. There is a great need for careful budgets of cost and a constant checking of these costs in manufacturing. The technical problems of vast-scale industry can not be solved by men who are ignorant of the related social and economic problems, nor can the executive problems of coordination be solved by men ignorant of the underlying tecrnical processes. Engineering must then, go along hand in hand with industry.

Science is now amalgamated with industry. This is proven by the fact that the advancement of Science is now carried on, to a large extent, in the industrial laboratories. There is a narrowing margin between invention and the advancement of scientific

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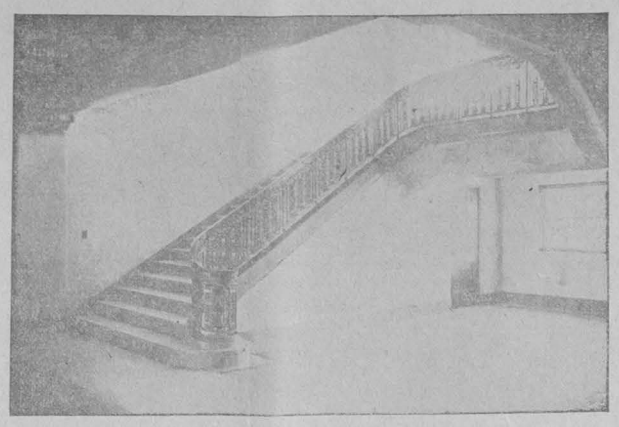
AN EXPERIMENT IN JOURNALISM

Once each year the Engineers take an unofficial laboratory course in journalism. The Engineers' Edition of the Exponent is the result. At this time each year the Engineers suffer from an acute inferiority complex. We can conduct an ore dressing investigation with more or less confidence, we can undertake a problem in power plant or structure design with the promise of a fair measure of success, but this experiment in journalism fills us with misgivings. Our sincere hope is that through our effort, you folks in the College of Agriculture, in the College of Applied Science, and in the College of Household and Industrial Arts will become better acquainted with the activities of the College of Engineering.

ANNUAL VISITORS' DAY

By eliminating the various departmental exhibits and demonstrations that usually accompany Engineers' Day the Engineering Council is deviating from a custom of several years' standing. In taking this action, the Council is guided by dual considerations. First there is the desire to encourage a more general attendance at departmental exhibits. Then there is the wish to revive an old M. S. C. tradition which has been overlooked in recent years.

The custom of holding an Annual Spring Visitors' Day is the tradition which the Council seeks to revive. For several years the multiplicity of special days on the campus has confused visitors so that the original purpose of departmental demonstrations, the education of visitors in the activities of the department, has been defeated. The holding of exhibits on various days throughout the year eliminates the force of concerted action and removes the attraction of novelty.



ENGINEERING STAIRWAY

We believe that the union of all college departments in holding an Annual Spring Visitors' Day would eliminate duplication of effort, would improve the general standard of the exhibits, and would attract a greater number of visitors than do the present special days. In short we believe an Annual Visitors' Day to be an exceedingly worthwhile project.

The successful conduct of such a day, however, requires more than passive acquiescence. It demands the active cooperation of everyone concerned. Are you with us?

Shoemakers children always go barefoot: we can be thankful that our dads don't all own clothing stores.

Pepper may be shortened to pep with no ill effects but shortening ginger to gin is a different matter.

Engineers attend the banquet if you wish to have a good mental functioning. Experiments in the University of Chicago have proven that going without food reduces mental activity—remember exams. next week. Tickets seventy-five cents.

The University of Arkansas offers a years subscription of the college paper to the student who grows the longest mustache. Keep it up Joe and we'll ship it down.

IF

(Collegiated from Kipling)

If you can keep your jack when all about you
  Are spending theirs and borrowing from you;
If you can trust all men and keep about you
  A small allowance for the board bill, too;
If you can wait for her and keep a date by waiting;
  And being blown about don't deal out blows,
Or, being dumb in class, don't show the way you're baiting.
  And yet don't cram too much, nor miss the shows.

If you can drink and not make drink your master,
  If you can dance all night and not get lame,
If you can draw an 'F' and whistle after,
  And yell at football like you were insane.
If you can bear to hear the truth about you spoken
  And profs condemn you as a fool,
And watch the team you've placed your bets on, jokin'
  With your chances for a trip across the pool.

If you can make one heap of all your pawnin's
  And risk it on dame football's fickle face
And lose, and start the winter with no mittens
  And an emptiness in your digestive space.
If you can force yourself to class each morning
  In spite of evenings spent with some pretty blonde;
And keep it up until the final warning
  That comes from home and says to you "Hold On."

If you can talk to girls and it won't hurt you
  Or walk with profs and pull the common touch;
If neither foes nor loving friends deshirt you,
  If studies count with you, but not too much,
If you can fill the unforgiving hour
  With sixty miles of scorching distance run
The whole darn world is in your power,
  And if you stick—you'll be a college man, my son.

K. L. in Syracuse Daily Orange.

All seniors at Columbia University are asked a number of questions before they graduate. Have you ever been kissed? Would you marry for money? Do you swear? What is your favorite drink? The results of these questionnaires are used in making averages for the senior year book. It has been found that over half the class preferred water as a drink. It also revealed that two thirds of the class smoked and that the majority would marry for money. The expected salary of the class members five years after graduation was set at $6,000.

HODGSON LEADING TRACK ASPIRANTS

Training Rules Are Strictly Followed Which Will Produce Results

At a meeting of Track Letter men held some time ag Stanley Hodgson of Missoula was elected captain of the squad to fill the vacancy left when Jules Benton dropped from school.

Hodgson is a distance man and the type of consistent performer that gets and produces results. His work for the last two years for Montana State has been exceptional and already this spring he is a leader and an inspiration to the men by his training rules. For several weeks he has been leading a squad of track aspirants through their paces on the tan-bark and if conditioning and training count for anything, Stanley Hodgson will produce the results.

CATHOLIC STUDENTS!

Annual Communion and Breakfast, Sunday, March 21. All Catholic students invited to attend breakfast after 8 o'clock Mass. Phone J. S. Haley residence, No. 549-W, before Saturday noon and make reservations. Breakfast is given by the K. of C. and the Catholic ladies.

M. S. C. GRADUATES ARE MAKING GOOD

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This is the record we have of our graduate engineers although other lines of work have a small proportion of them.

In 1899 the mechanical engineering department awarded a diploma to the first graduate in engineering at M. S. C.

Among the most prominent we have record of are:

W. T. Willson, who is manager of the Westinghouse interests in the state of Arizona.

Jerome G. Locke, Chairman of the Industrial Accident Board in Montana.

William Edsel, assistant general manager of the Condit Elecerical Manufacturing Co. at Boston.

Clint Booker, superintendent of the Montana Power Co. in Great Falls.

Reeno Sales, chief geologist of the Anaconda Copper Mining Co.

Lesley Petigrue, who has charge of the Municipal Sanitary and Health board in Haitii.

Charles T. Sackel, W. B. Freeman, J. S. James, and W. F. Sloan are in the consulting line of engineering.

Concerning the number of our graduates M. S. C. ranks with the best in so far as their prominence is concerned.

LAB COURSES LIMIT TIME FOR ACTIVITIES

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others.

This year's A. S. M. S. C. president is an engineer; yes, it is true that last year's president was an Ag, but who was president the year before that—an engineer, of course.

The engineers are right in the thick of it when it comes to dramatics, the band, glee club and other intercollegiate activities. However, the engineers do fall down when it comes to the finer art of handshaking. They haven't the gift of gab, for what's the use; an engineer must deliver the goods.

ENGINEERING ADVANCES WHEN SCIENCE PERMITS

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kowledge. Some scientific advancement is carried on in engineering establishments and government and state laboratories. In the future engineering and science will be so closely related, that one can not take a step forward without the advancement of the other.

The advancement of science is constantly tending to the advancement of engineering processes, which is explicitly shown by the improvement in the precision of geodetic surveying. This improvement has been brought about by progress in the sciences of astronomy, mathematics, physics, geology and metallugy. The demands on engineering design and construction are more exacting today than in the past. Engineering design and construction is dependent on scientific advancement.

Tendency for future world leadership is to rest mainly upon science and its applications. The leadership of the ancient world rested upon physical force, but the leadership of today has advanced far beyond that stage and rests upon scientific knowledge. Therefore, future leadership depends upon the Engineer, the student of science and the promotor of its applications.

ARCHITECTURAL CORRIDOR

LIFE OF INDUSTRIES BASED ON RESEARCH

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their products compare as to quality with the products of similar industries throughout the country. There are many undeveloped resources in Montana which await the results of scientific research to enable their development of a commercial scale. There are also many problems of general economic value which await solution. For such work there must necessarily be financial support from the state as a whole. The council of the engineering experiment station are anxious to attack some of these problems of a general nature which should return the cost of the study to the people of Montana many times over. Lack of finances of the state has so far prevented any such studies. In carrying on research for single industries charges are made to cover the actual cost of labor and materials used in work. In this way small industries can secure research service at a much smaller cost than if they had to organize their own research staff and facilities. The possibilities of industrial development in Montana through research are almost beyond belief and it is safe to say that with proper support the engineering experiment station would become a foundation for a far greater industrial activity in Montana.

ENGINEERING IS LARGEST SCHOOL

(Continued from ppage One)

Among the engineering professors still on the hill Prof. Cobleigh is the oldest from the standpoint of service, starting in 1894 as Instructor in Chemistry and Physics. This was previous to the establishing of the College of Engineering. Prof Thaler came to M. S. C. in 1901 as Assistant Professor in Mechanical Engineering. These men have watched the College of Engineering grow steadily in registration and the courses improved until they rank with the best in the country.

During the year 1916-17 there were one-hundred and four registered. Because of the World War this number dropped to seventy-seven in 1918-19. The next year it jumped to one hundred and ninety. The total enrollment for the institution during the two years was three hundred thirty-five and five hundred nineteen, respectively. It was at the beginning of this term that Dean Norris came as head of the College of Engineering. Since then the number has increased steadily until this year it is approximately four hundred.

Nathalie F. Sackett is the only woman graduate. She received a B. S. degree in Civil Engineering in 1913. At present she is an Instructor in Science for a high school in Patterson, New Jersey.

JOBS FOR ENGINEERS

(Continued from page One)

This shows that mining Engineering has the least hold on the graduate and civil Engineering has the most.

Earning and progress of graduates shows that graduates have a steadily rising earning power with experience, the median being approximately $3,000 after five years, $5,100 after 15 years and $7,500 after 30 years. The progress of the recent graduate to the former graduate is something over $300 in annual salary per year. Extreme variations between graduates of different institutions are not evident.

How graduates secured their first position: Through college or employer, 45.2 per cent; family or alumni connections, 16.7 per cent; work prior to graduation, 15.7 per cent; personal initiative, 4.3 per cent; advertisement or employment agency, 5.6 per cent, and other means, 2.5 per cent. The reasons given for the graduate's choice of first position show that 49.5 per cent took their first position because it is in the definite field of their college courses. Only 3.7 per cent chose because of the salary involved, and only 9.7 per cent because of the fact that it was the only position available. It is found that there is considerable shifting from job to job among recent graduates.

It was disclosed in this research work that 76.6 per cent of the graduates had to continue study of Sciences and Engineering after graduation. Most of this study was carried on through the organization of the company and some by individual efforts. Very little future study was carried on by post-graduate work or by correspondence courses.

Opinions given by graduates as to important omissions from college courses point out that 50.9 per cent consider commercial and business subjects should be increased in Engineering courses. English and public speaking were requested by 26 per cent and 8.2 per cent thing the engineer needs more cultural subjects. Many graduates think the Engineering course is crowded too much in four years and advise that five years should be spent to cover the work.

The qualities sought by engineers in other engineers whom they employ, classified in the order of importance as rated by the employers are as follows: Character, leadership, physical qualities, training in a particular course or specialty, scholarship record. However, Mr. Wickenden said that the scholastic record being placed at the bottom of the list did not signify that it was the least important for many of the other characteristics named above are judged from this record.

NEW CAMPUS PLAN WILL BE FOLLOWED

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Ultimately the present engineering building and the shop building will be connected and the space between occupied by a secondary building to relieve possible congestion in the main enginering building. The plan of the architect, Mr. Fred F. Wilson, calls for a two-story building half way between the engineering building and the shop, with a two story corridor connecting the present engineering building with this new building and extending beyond it to the shops. On the east side of the corridor the new buliding would contain an engineering auditorium, with a gallery, giving a total seating capacity of probably 1,200 students. On the west side of the corridor it is planned to house the engineering library with greatly increased facilities over those now available. The construction of this unit when the present engineering building becomes overcrowded would release for class room use the rooms now occupied by the engineering auditorium and library.

The two blocks between the Garfield Avenue and Cleveland Avenue are reserved for future development in the way of separate buildings for the different engineering departments. Just across the Garfield axis from the present engineering building there will ultimately be placed another building similar in size and architecture to our present building. Beyond this to the north there will still be room for two more class room buildings. In his way it will be possible ultimately to have a building for each of the four major divisions of engineering.

The completion of this entire development might be 50 years in the future but it is always well to have a definite plan for development which foresees the ultimate demands of the division so that there may be no false moves by the lack of foresight.

WALTER STANLEY STARS AT MEET

Montana State Wrestling Team Places Third in Utah Conference

The Montana State wrestling team consisting of Walter Stanley and Thompson placed third in the conference ratings with Utah Aggies and Brigham Young first and second respectively.

Stanley was the special star of the meet and was looked upon as one of the exceptional men in the werstling game. His match with Croft of Brigham Young in the 135 pound class was a thriller and Stanley was awarded the decision after a hard fought affair. Stanley had succeeded in winning his way to the finals in two weights, the 145 as well as the 135 pound class but won the decision and championship of the lower weight only. His performance gave Montana State third place.

Walter Stanley is one of the most consistent trainers of any of the athletes in college. He has trained faithfully all winter long for these westling matches and well deserves his honor. His success is an example to all of what clean living and the right attitude can do. Our hats off to Walter Stanley!

COLLEGE CHORUS.

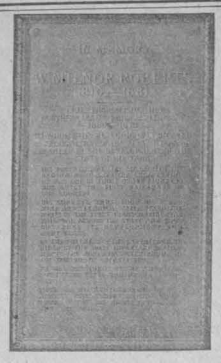
Will meet for special rehearsals on Tuesday, Wednesday and Thursday of this week from 5 to 6 p. m., at the assembly hall, Main building, for the purpose of learning several new choruses for this week's musical assembly and for the special concerts at the Ellen theatre on Saturday.

I ask for complete attendance at these three rehearsals.

JOSEPH ADAM.

Basketball stars as a rule grow up as players but occasionally some one starts late and proves a wonder. Loris Baker, Captain of the O. A. C. team this year was that type. He decided to play for the first time when he was a senior in high school, and in five years became one of the Aggie's greatest players. He also rates well in the Coast Conference. Loris is known to a great many Montanans since he spends his summers on the hot corner in the Mines Baseball League.

The Evergreen — State College of Washington, Pullman—Great interest is being taken on the annual Ag. Engineer basketball game. There seems to be considerable rivalry between the two departments and the winner of the coming hoop battle will feel highly elated.



DEDICATION TABLET

Campus Notes

Glen Boyer '25, Arthur Boyer '25, and Fred Stump '25, are with the General Electric Company in Schenectady, N. Y.

Very McCoy '25 has a position with the Chicago, Milwaukee and St. Paul Railroad Company in St. Paul, Minn.

Victor Thayer '25 is taking post-graduate work at the University of Pittsburg.

Joe McCune '25 is a student engineer with the Empire Gas and Fuel Company in Okmulgee, Okla.

Larry Lyndon '24 is with the General Electric Company in Schenactady

James Dunstan '25 is with the Chicago, Milwaukee and St. Paul Railroad in Spokane.

Corneulius Sullivan '25 is at the Lynn, Massachusetts, works of the General Electric Company.

J. G. Howe from Stevensville and Ed and John Buzzetti from Hardin, were dinner guests at the Omega Beta house Wednesday.

Ski Rivers was a guest at the Omega Beta house during tournament.

Mr. and Mrs. Albert Allan were dinner guests at the Sigma Chi house last Tuesday.

Bill Lowery from Whitehall was a dinner guest at the Sigma Chi house Wednesday.

Bernard Williams' father visited him ot the Sigma Chi house during tournament.

Mrs. H. B. Showmer of Helena was dinner guest at the Alpha Gamma Delta house Thursday.

THE ENGINEER

Verily, I say unto myself, Marry not an Engineer.
For the Engineer is a strange being, and possessed of many Devils.
Yea, he speaketh eternally in parables which he calleth Formulae.
And he wieldeth a big stick which he calleth a slide ruel, and he hath but one bible—a handbook.
He talketh always of stresses and of strains and without end on thermodynamics.
He showeth always a serious aspect, and seemeth not to know how to smile.
And he picketh his seat in the car by the springs therein and not by the damsel beside him.
Neither does he know a waterfall except for its power, nor a sunset except that he must turn on the light, nor a damsel except for her live load.
Always he carrieth his books with him, and he entertaineth his maiden with steam tables.
Verily, though his damsel expecteth chocolates when he calleth, she openeth the package but to disclose samples of iron ore.
Yea, he holdeth his damsel's hand but to measure the friction, and kisses but to test the viscosity.
For in his eyes shineth a far away look which is neither love nor longing—but a vain attempt to recall a formula.
There is but one key to his heart, and that is the Tau Beta Pi key, and one love letter for which he yearneth, and that an A.
And when to his damsel he writeth of love and signeth with crosses mistake these symbols not for kisses, but rather for unknown quantities.
Even as a young boy, he pulleth a girl's hair to test its elasticity, but as a man he discovers different devices.
For he would count the vibrations of her heart strings, and reckoneth her strength of materials.
For he seeketh ever to pursue of his scientific investigations; even his heart flutterings he counteth as a vision of beauty and inscribeth his passion in a formula.
And his marriage is a simultaneous equation involving two unknowns and yielding diverse answers.
MORAL: Marry not an Engineer.

TAU BETA PI SOON TO BE INSTALLED HERE

(Continued from page One)

bership and membership with distinction. Active members are chosen from the upper eighth of the engineering class in the junior year and the upper quarter in the senior year. Membership with distinction may be given to engineers of unusual ability who have a record of attainments such that they have a high national reputation among the men in their own line of specialization.

The objects of the fraternity are to mark in a fitting manner those who have conferred honor upon their Alma Mater by a high grade of scholarship as undergraduates or by their attainments as alumni and to foster a spirit of liberal culture in the engineering schools of America.

The chapter at Montana State college will fill a big gap geographically. It will be the connecting link between the chapter at University of Minnesota on the east, the chapter of Washington State College on the west and the chapters at the University of Colorado and the Colorado State School of Mines on the south. The other chapters of Tau Beta Pi in the western states are at the University of California, Berkeley; California Institute of Technology, Pasadena; Oregon Agricultural College, Corvallis, and University of Washington, Seattle.

Tau Beta Pi holds an annual convention for the purpose of bringing together the representatives of the different chapters in order that they may become better acquainted not only with each other but with the activities of their respective chapters and of enacting the legislative business of the fraternity. It was the action of the last convention held at Purdue University, Lafayette, Ind., that gave Montana State the privilege of having a chapter of Tau Beta Pi. The next annual convention will be held in the fall of 1926 at the University of Missouri, Columbia, Mo., at which convention the Montana State chapter will have a representative.

Sigma Epsilon, the local honorary engineering fraternity which is to be installed into Tau Beta Pi early in April is endeavoring to promote an interest in scholarship at M. S. C. by offering a prize to any freshman who has the highest standing at the end of his freshman year and who has been enrolled in a full engineering course during his first year. This prize, a suitably engraved slide rule, is to be presented at the general Engineering assembly the following fall and is therefore contingent upon his returning to school.

ENGINEERING LIBRARY

HER HERO

(Continued from page One)

quickly complaining that the guy next to her had haliotosis.

"Oh, he's all right. Just spilt some para-amino-azo-benzene on his shirt."

"——An here's where the sophs try to find how much silver there's in German silver."

"Oh Where?" She upset a flask.

"That's mine," he screamed, and lost control of himself. He tossed her off into a corner, and frantically began to mop up the contents and squeeze them into a beaker, blaspheming terribly.

These chemists are so noble, and masculine, and impulsive, she thought.

After it was all over he turned his back to her, bit off a mouthful of something. When he faced her again his jaws were working convulsively.

He chews, she thought, heartsinkingly.

"Come here," he said.

By this time she was wide eyed. Surely he would asphixiate her. But no. He began to show her around again.

He chews. He chews. The thoughts rang through her mind for half an hour until finally he spat half a pound of paraffin into the sink. She was so relieved.

"You smoke," she said with a catch in her voice, as she noticed his yellow fingers.

"No. Just nitric acid on my fingers. —An this is the stock room window," he said.

She saw a little girl with a sweet face calmly handing out inverted test tubes, benzene rings, glowing splinters, and bottles of saliva to eager outstretched hands. She thought it all looked so peaceful.

"——An here's the frosh lab."

There was a crash of glass and a boom that rent the heavens. She had merely touched something.

"You did it," screamed a shrill voiced, black eyed little girl, who began to throw glassware at her, and would have choked her had not her hero jerked her out into the hall. Her hero, a chemist, and an athlete too, for had he not spoken of the halogens, the oxides, the molybdates and others, who must have been his foreign competitors in the olympics? Yes, she would marry him.

Miss Fay McCollum of Livingston, Mis Edith MacElroy and Miss Margaret Agathar were guests at the Alpha Gam house during tournament.

WHATS WHAT

(Continued from ppage One)

ciples underlying all engineering, many problems in the construction and location of railroads, public highways, water works, power developments, irrigation systems, and municipal engineering are studied. With so many such projects still undeveloped in Montana there are many opportunities within the state in civil engineering.

Mechanical Engineering.

The mechanical engineer is primarily concerned with the operation of manufacturing industries and supervision of transportation systems. All of the raw products of the land must come under the direct supervision of the mechanical engineer. A thorough training in the design and construction of manufacturing and transportation machinery is given the student Well equipped modern shops serve to acquaint the student with some of the types of machinery that is sudied in the classroom such as turbines, pumps, combustion engines, and power plant design using the heating plant of the college as a model. Since practical work requires original thinking and conceptions, special attention is placed upon developing the scientific attitude in the student.

Chemical Engineering and Industrial Chemistry

Chemical engineering has just recently come to be recognized as a distinct profession. The chemical engineer directs the operation of those industries that depend upon chemical processes. A strong course in the fundamentals of the subject is first given the student to be followed by a more intensive study of the "unit operations" as all of the various chemical processes are classified. These operations include such subjects as the flow of heat, crushing and grinding, distillation, filtration, and evaporation. A special study of type industries including observation trips is made. Well equipped laboratories enable intensive courses in the handling and manipulation of laboratory work to be given. These courses are particularly essential to the professional success of the practicing chemist. Industrial chemistry students are allowed to elect other studies in place of the engineering work required of the chemical engineering students

Irrigation Engineering

Students are enabled to specialize in irrigation work by following a regular civil engineering course and substituting special work in irrigation for some of the courses in railroad, sanitary, and municipal engineering

TESTING MACHINE

Electrical Engineering

The phenominal growth of the electrical engineering profession the last two decades has led to the installation of a very thorough course in that subject at Montana State college The electrical engiher of today is not the man who connects up our electric range, but the man who directs the operation of the machinery for generation, distribution, and use of electricity In addition to the more common phases of the subject a large amount of the work of the undergraduate is given over to the consideration of the more theoretical phases such as modern wireless telegraphy and telephony The theoretical work of the class room is thoroughly supplemented with work in well equipped laboratories

Industrial Engineering

The recent development of manufacturing industries has lead the engineering faculty to provide a special course for the training of men to direct such manufacturing industries. A thorough training in all of the principles of engineering is given the student as a basis This work is then supplemented with training in the administration through such work as accounting, economics and commercial law. The student is taught to analyze the industry in a scientific way and then to apply the correct business and technical methods to operate the plant most efficiently.

Engineering Physics

The growth of research in the industries has led to the devlopment of a special engineering profession known as engineering physics. The modern manufacturer realizes the need of new methods that can be developed successfully only in the laboratory, and it is the aim of this department to fit men for this work. The first two years of undergraduate work are given over to the basis engineering subjects while the last years are spent in the consideration of advanced work in chemistry and physics. Excellent physical, chemical and engineering laboratories enable the student to get a thorough grounding in the laboratory methods that he will use in practice.

Architectural Engineering

To design beautiful and well constructed buildings is the chief function of the architectural engineer. The ever increasing problem of housing the rapidly expanding population has given this branch of engineering particular prominence. The work at Montana State college includes special work in design as well as the underlying principles of the profession. While the course is designed for four years, most students plan to spend five in their collegiate work. The demands of the profession make practical experience so necessary that most graduates spend the first few years of work following graduation in the drafting rooms of well established firms.