New Faces on Hall Council

Two freshmen, James A. Mazza of Chicopee, Mass., and Raymond K. Kotow of Crossfield, Alberta, Canada, were elected to serve on the hall council. They were chosen to replace Dan Bovis and Bob Apple, who graduated and left the hall council after many hours of consultation between the members of the council.

After a few attempts, the hall council reappointed the committee. Don Roberts was also the final choice of the hall council to sit as the hall council representative for the semester, representing the freshmen, from the dormitory, on the discipline committee.

Now that the council has two new members, and a student on the discipline committee, the hall council should be maintaining a high degree of efficiency, as representatives of the students in the residence hall.

Geologists Go Underground

Dr. Karl's mining geology taught their undergraduate studies before the Easter holidays by taking the Badger and Silver Creek underground tours to learn sampling procedures.

During the course a total of fifteen underground tours will be made to include underground mapping, geological, geological mapping procedures, and mine sampling.

Today the second trip of the course will be made to the Badger Mountain mine followed by eventually mining geology techniques. This trip will be followed later in the semester by several geology mapping trips during which parts of the Steward and Black mines will be mapped.

Students participating in this course are J. Chezini, S. DemHardy, J. Enickson, K. Fox, J. Kirchner, A. Lindquist, D. Rasmussen, and R. Utter.

Geology Department professors assisting in this course are Mr. W. E. Cox and Mr. W. R. Hall.

Mr. F. N. Ramsower, a graduate student in Geology, recently gave an interesting seminar entitled "The Causes of Earthquakes." Mr. Ramsower discussed several of the modern theories of earthquake causes and their relationship to present earthquake areas.

Interview Schedule for April, 1960:

April 26, 27 - Anaconda Company (Salt Lake City, Utah) Interviewer: Mr. John F. Dagen, Representative; Prof. Vine, in charge of interview; 208-B, Eng. Bldg.

All interested juniors, seniors, and graduates. This interview will complete the interview schedule for the year 1959-60.

Magma Goes To Press

Everyone can relax now—that everyone who has been working on the Magma Staff for the past month. The first draft has been sent to the printers, and only the proofreading and a few minor adjustments remain.

The Magma Staff has put every effort toward the book to make it a success. Close cooperation between staff members and the printers was ever-present during the printing, and contributed heavily toward the completion of the book.

Lew Fischer, editor, headed the project, with John Bennett serving as assistant editor and John Rufatto, business manager. Considerable work was done by the Magma staff was done by Werner Rasch and John Sigfusson. The remaining part of the staff consisted of fifteen students who were assigned to different phases of the project.

This year's Magma will be devoted to the topic of course, picturing a prospering proponent holding gold along a stream. It also contains a number of colors which separate the various sections.

Although student cooperation with the Magma Staff was very good, many students failed to have their pictures taken. It is hoped that a larger percentage of students will have their pictures taken next year.

Students are urged to refrain from crowding the publications room to catch a glimpse of the first draft of the Magma. A notice will be issued the moment the Magma arrives on the campus. A time schedule will be set up so that all students may fulfill their desires to look at the Magma.

Prof. McAskill Scholar-shipped

John G. McAskill, assistant professor of physics at Montana School of Mines, has been awarded a month-long scholarship at Bemisfer Polytechnic Institute, Troy, New York. He will attend a seminar on instruc-tion and digital computers which will begin on June 19th and conclude on July 15th.

Professor McAskill will be one of a class of twenty to attend the institute from colleges across the United States.

The course will consist not only of the theory of computers but will involve actual experience in solving problems with the computers.

Good, many students failed to have their pictures taken. It is hoped that a larger percentage of students will have their pictures taken next year.

Students are urged to refrain from crowding the publications room to catch a glimpse of the first draft of the Magma. A notice will be issued the moment the Magma arrives on the campus. A time schedule will be set up so that all students may fulfill their desires to look at the Magma.

Coming Events

APRIL-

21- Student Wives' Bridge, Coed Room, 8:30.
22- A.A.U. Weight Lifting Meet, Northwest Division.
24- Baseball, Mines at Western.

MAY-

1- Senior Tea.
2- Baseball, Carroll at Mines.
2- Faculty Women's Club, Main Hall, 8:00 p.m.

The Montana School of Mines
EDITORIAL

M-Day has long been a major part of the wonderful tradition of this school. It would be a shame to see it fail to materialize this year.

The Copper Guards, the sophomore men's honor organization, has the responsibility of organizing most of the M-Day activities. The record of this organization has been mixed...[remainder of text not provided]
Mines To Host Sports Carnival

The School of Mines will be host to the Spring Sports Carnival, which includes championships in baseball, track, golf and tennis for the schools in the Montana Intercollegiate Conference. With very limited opening events will be at various locations in the city.

The baseball tournament will be held at Duggan Memorial Park, which is located across from the Boulder High School. The tournament will begin on Friday, May 20, with first round games to be played that morning and afternoon. The track and field meet will be held Saturday, May 21, on the Junior High Field. Many athletes from the Montana colleges are expected to participate in this competition. The golf tournament will be held at the Butte Country Club. Each entrant will play 18 holes, 18 to be played on Friday the 20th and 18 on Saturday the 21st.

The tennis tournament will be held at the courts either on Harrison Avenue or at the Excelsior Street courts, or both if necessary, on Saturday, May 21. Drawings and pairings will take place at the course immediately preceding the matches. Students from the Mines who will participate will be announced later by Coach Ed Simonsich.

Cullen Cuts Baseball Team

Coach Bill Cullen cut the baseball team to twenty-two players at the first of the week. The following boys survived the first cuts: John Brown, Jim Hamilton, Don Jenkins, Jim Conway, Dick Crnich, Bob Dickerson, Jim Dwyer, Darwin Enkton, Ken Erickson, Pete Cross, Tom Henderson, Dan Jewich, Jim Kunkel, Ray Kotow, Tom Leibsoch, Don Mahagon, Bob McFarland, Dick Melch, Bill Mietti, Bill Tiddy, and Trbovich, Donald Hrostowski. This week Coach Bill has the boys drilling hard for a doubleheader at Western April 24. If the game is a good one a great gory showing can be expected.

Honoroble Mention

Coach Ed Simonsich recently announced that three of the 1960-61 Mines baseball team were named All Conference honorable mention at a meeting last month of the coaches of the Montana Intercollegiate Conference. The three to receive honorable mention were Bill Thompson, Junior guard from Everett; Washington, Bob Hauck, freshman forward from Butte, Montana, and Harlan Hlighthon, sophomore guard also from Butte.

Spring Had Sprung

Easter Monday rolled policies those enough power to make their 8:00 class. As in most schools there were some who did not even make the campus. Our spring vacation was heaven sent, it seemed that after midterm exams a rest was well in order. Most. Monday scholars had an unusually vacant look on their faces, which led one to wonder whether it was the grades or the weekend.

One report has it that everyone left in town had to take on an extra load to make up for those who enjoyed their spring vacation elsewhere. Around the news around campus is a little red bug, which had been kept secret for two months. Now it seems that a certain party has become a VW fan. Oh well, he always feared those little foreign bugs anyway. The only complaint about this spring vacation is that now we need to work to recuperate. As was stated before, "Spring has Sprung."

Salesman: This model can go 100 miles an hour and can stop on a dime.

Prospect: What happens after a dime.

Salesman: A little pouty kid can open it and scrapes you off the windshield.

Wildlife Convocation Held

The Museum Hall on March 30 was the scene of a convocation on Puerto Rico, U.S.A., presented by the National Audubon Society. Mr. Fran William Hall presented a lecture, color films, and recorded music that showed some of the colorful natural life of Puerto Rico. He is a photographer and naturalist and has worked for the Walt Disney studios specializing in close-up photography.

The program consisted of two films and a recording of some of the creatures of the Puerto Rico nights. The first film showed some of the birds, bugs, and insects that inhabit that colorful island. The second was some of the unusually beautiful underwater life surrounding the island.

Baseball Teams Play Intersquad Game

The Mines baseball team coached by Bill Cullen is shaping up nicely following daily drills on Leonard field. The team is aiming for its first games in Dillon at 1:00 and 3:00 p.m., Sunday, April 24 against Western. In an intersquad practice game played Friday, April 8, the team captained by Ken Erickson defeated the team captained by Jack Tribovich by a score of 6 to 3. The precise game proved valuable to coach Cullen in attempting to mold the best possible starting roster into a well rounded team. During the game, the big hits were carried to the plate by Ekstrom, Crnich, Liebsh, Laughlin, and Erickson, who hit a home run into center field. A steady stream of hits collected off Laughlin, Crnich and Anderson. Actually, all batters worked hard in developing their control. Defensively showed some of the unusually beautiful underwater life surrounding the island.

Track and Tennis Competition Slated

The Montana School of Mines track and tennis teams are slated to open their season on May 7, at the Montana State College Invitational track and tennis meet. The meet will be held at the State College in Bozeman, Montana. As yet no team is posted, but Coach Simonsich is planning on entering about six or eight men in the track and field meet and two in the tennis meet.

The following weekend the track and tennis teams will travel to Dillon to compete in the N.A.I.A. District Track and Tennis Meet. This meet is scheduled for Saturday, May 14.

Then on May 21 the two teams will compete in the annual Spring Sports Carnival, which will be held at the Montana Intercollegiate Conference Champions in baseball, track, tennis and golf, to be held in Butte on May 20 and 21. This carnival will end athletic events for the schools of the conference for this academic year.

Tennis Team to Open May 7

This year Mines tennis team is composed of Manuel Munoz from Cananagua, Chile, and Bill Thompson from Everett, Washington. A 4-game schedule will be played in an additional pre-season game at Butte next month.

The 4-game schedule will include the Montana State College Invitational Tournament on Sunday, May 7. Followed by the N.A.I.A. Championships to be held in Dillon on May 14. May 21 will see the team at home to play in the Montana Intercollegiate Conference meet. To conclude the tennis season, the team will travel to Bozeman to compete in the Montana University Invitational Tennis Tournament on May 28 and 29.

Last year, the Mines team was composed of Manuel Munoz and Johannes Dreyer, who combined to win the doubles in the N.A.I.A. tournament played at Dillon on May 21, 1960. Munoz was also the singles champion.

To Host State Weight Lifting Tournament

The Silver Bow County Recreation Center, in cooperation with the Montana College of Mines, is sponsoring the 1960 Montana All-weight lifting championships in the School of Mines gymnasium on Saturday, May 7.

Weight lifters for 123, 132, 148, and 165-pound classes will be from 10:30 a.m. to noon. Lifting in these classes will start at 2 p.m. Lifting for the 168, 180 and heavier- weight classes will be from 4 to 5 p.m. Lifting for the heavier classes will start at 7 p.m.

All entrants must have an official state license. These licenses may be secured during the weigh-ins for $1. All entries will be received by the meet director not later than May 2. No entries will be accepted after that date.

All entries are in charge of arrangements.

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33 West Park Street
Butte
**E-Day Scenes**

They had found the dice of a million.

**E-Day Big Hit**

The third annual Engineering Days was considered a big success. Several hundred people visited the school on Saturday and Sunday, April 2 and 3.

The Mineral Collection in the Library Building, as always, attracted a very large crowd. Every one seemed impressed with the beauty of the mineral specimens. People were fascinated by the complex scientific wonder of the minerals. They commented that every department had something different and very interesting, and then they wished they had come earlier so they could have seen everything more completely. Many were without comment that the E-Day exhibits this year were very extraordinary. The townsmen were also very interested in the movies that were shown in the different departments.

After all the exhibits were carefully judged, the Metallurgy Department came out on top with the first award of $50 followed by the second award of $15 which was given to the Physics Department and the Earthquake Display which tied for second place. These awards were given by the Anderson-Carli Society.

All students and faculty who took part in presenting these annual Engineering Days should be congratulated. It took many hours of work to prepare the apparatus and exhibits, because of the great amount of equipment and techniques that were shown. The students were all very interested in this scientific ability which they exhibited during the two engineering days.

**DR. UNDERWOOD—**

(Continued on page 1)

**TERMS OF ACCURACY, SELECTIVITY, AND GENERAL FLEXIBILITY.**

Although photometric titrations are not em-
ployed nearly to the extent that they might be, enough work has been done to make it clear that they should take their place alongside potentiometric and instru-
tmental titrations.

It is easy to adapt existing filter photometers and spectrophotometers to perform simple, manual photometric titrations, and even the instrumentation for automatic operation is relatively uncomplicated. Likewise, the theory of photo-
tometric titrations is fairly simple. From the absences of the tit-
ration reactants and products, the Beer-Lambert Law, and the appro-
riate equilibrium constants, one can easily calculate theoretical ti-
tration curves. The shapes vary with the absorption properties of the reactants and the wave lengths used, but typically the curves consist of linear portions intersecting at the end points. Since reasonable extrapolation is permissible, only a few experi-
mental points are needed to complete a titration.

Acid-base, redox, precipitation, and complex-formation titrations

(Continued from page 1)

3 MINERS—

- lecture, pathology, civil engi-
neering, electronics and radio en-
gineering, geology, geographical engineering, general science, in-
dustrial engineering, industrial management, library science, me-
chanical sciences, metallurgy, min-
ing engineering, physics, civil en-
gineering, process engineering, radio technician, soil fertility, and tool engineering.

A beatnik lived in a room with
just a bed and chair. One night
he read two magazines lying on
the floor.

"What didja do, man," he
asked, "hire a decorator?"

Overheard in a Hollywood night
club by your editor's wife.

"Didja see last month's
issue of MAD?"

**Know Butte...**

**BIGGEST RAILROAD**

"The Butte, Anaconda and Pacific is the biggest railroad for its size in the United States."

That was the proud boast of railroadmen connected with that road in the old days. They meant that the B. A. & P. hauled more freight for its length than any other railroad in the country.

The "Little Hercules" was the first railroad in this country to install a 2,400 direct-current electric apparatus for operation of a railroad. Previous to the B. A. & P. installation, 1,000 volts was the highest installed for such a purpose.

The railroad was incorporated Sept. 30, 1892. The rail line was constructed by the Great Northern Railway Co. under supervision of Chief Engineer F. W. C. Whyte. Operations were started on Dec. 1, 1893.

**THE ANACONDA COMPANY**

**Nuts 'n Bolts**

by Jack Bennett

**FUTURE FUNCTIONS OF THE MINING ENGINEER**

At the February conventions of the AIME in New York, suggestions were made as to how the education of the Mining Engineer could be improved. It was the gen-
eral opinion of educators and teach-
ers in the mining industries that there is a great need for the Mining Engineer to change.

Charles Brickerhoff, President of the Anaconda Co., said: "The need for the old concept of mining, trained broadly in many fields, has greatly de-
creased. We need engineers more trained, capable either of specializing, or of eventually developing into administrative work, in any branch of the extractive industries." He further suggested that the engineer be given a three-year course of three semesters each of the principles of engineering and one number of courses in management, some number of courses in advanced courses in mining engineer, trained broadly in any branch of the extractive industries. These three years would then be followed by specialized training in the field of his choice for another two years.

Among numerous other sugges-
tions there were those made by S. D. Michaelson. He held that less em-
phasis should be placed on sur-
veying, sampling, and mine layout, because most of this type of work is being done by sub-professional men. He suggested that the courses be revised to add a greater number of long range planning, budgeting, sys-
tem analysis, and administrative work, with more emphasis on administrative work and force control, administra-
tion, and force control tech-
niques.

Roger Pierce, consultant of Salt Lake City, further suggested that the schools of the Northwest be consolidated into one strategically located institution, possibly in the Butte area. This would enable the school to be located in an area of extensive and varying types of mining, and also provide the stu-
dent to get some firsthand experi-
ence. It would also provide for a better financed and equipped insti-
tution.

The results of this discussion provided no action, but it is evi-
dent that there is need of some training programs to meet the mod-
ern educational curriculum with a defi-
nitely defined basis in business and business administration.