**Amplifier**

**Published by the Associated Students of the Montana School of Mines**

**Vol. IX, No. 8**

**Tuesday, March 19, 1964**

**TV Programs Continue**

*by Mae Brennan*

A series of TV programs sponsored to tell young people and their parents about the fascinating world of science and engineering, are continuing. March series included Dr. Donald McCarthy, Prof. Gordon Ziesing, Ray Brennan, John Richardo, and Prof. William Vine and Prof. William Van Matre, March 17.

**Dr. Koch Introduces Speaker**

Presenting the 3rd program in this series, Dr. Edwin Koch, president of Montana School of Mines, marveled, "As we enter the space age, we face an increasing shortage of scientists and engineers who are qualified to meet the challenges of the times. Because of this, being a school centered and devoted to the training of scientists and engineers, has felt that it is time that the young people of this community and surrounding communities be introduced to some of the fascinating aspects of science and engineering, so that they would consider entering one of these various fields as a possible career." He then introduced Prof. Ralph Smith, associate professor of mathematics, who spoke on "Ceramic Testing." Prof. Smith's assistant was G. P. Paine, from Indiana, a senior at MSM, studying to be a ceramic engineer.

**Ceramic Testing**

Smith described the different steps used in testing ceramic materials. First, selections which are found in this area, are broken down. Next, a sample is soaked in a salt which is added for the purpose of making the clay plastic. Then the clay material is made plastic; it is then formed and made into shapes, using water until it falls apart. The testing of shapes is then measured, and recommendations will give the plasticity of the mixture.

To find the softening point or refractory point of ceramic, from the test, conical cones (test cones) are made from the clay. These test cones are then placed in standard cements (manufactured and given standard temperatures) and then fired at different temperatures. Ceramic materials are not fired in the same way. A cement is formed and screaming is then fired, then they are fired in a kiln. Powder clay is an ore and magnetic clay must be iron oxide. The samples are then fired at a temperature until they become a brown color. The samples are then placed into a kiln and then fired at a temperature until they become a brown color. The samples are then placed into a kiln and then fired at a temperature until they become a brown color. The samples are then placed into a kiln and then fired at a temperature until they become a brown color. The samples are then placed into a kiln and then fired at a temperature until they become a brown color.

**Mineral Dressers’ Program**

Prof. Donald McGlashan, chairman of the Mines Mineralogy Department, served as moderator for the Mineral Dressers’ Program. The program, held in the Natural Resource Building, featured talks on mineral and ceramic materials, and had several workshops on the subject. The event was sponsored by the Natural Resource Department and was open to the public.

**Cobb Foundation Awards Scholarships**

Banning, Caddy Named

by Jean Krier

Two MSM sophomores, William R. Banning and Joseph M. Caddy, have been awarded Cobb Foundation Scholarships, according to W. M. Brown, registrar and chairman of the College Scholarship Committee.

The Cobb Foundation of $250 each are given on the basis of scholarship need. They were established by the foundation of the late Mr. and Mrs. L. Cobb of Great Falls is president.

**Mineral Dressers’ Seminar: Rogiv, Villena, Ziesing**

*by Michael Mayne*

The third of the present series of mineral-dressing engineering seminars was given March 16, by Mr. A. D. Rogiv, an MSM graduate student.

**Engineering Fundamentals**

*by Lynn Eatery*

The scheduled evening review of the present fundamentals program, initiated at Mines on March 1, will continue through April 15.

**Review Schedule**

March 9-Mathematics-Vine
March 11-Statistics-Young
March 12-Chemistry-Faul
March 15-Dynamics-Stout
March 19-Strength of Materials-Stout
March 25-Psychology-Caldwell
April 1-Electricity-Young
April 2-Thermodynamics-Stout
April 4-Economics-Van Mater

These sessions have a dual purpose: first, to further prepare the engineering students for the university examinations, slated for April 25; and second, to provide a general review of basic engineering fundamentals for practicing engineers.

There is no charge for engineering students. Practicing engineers, however, interested in preparing for EIT or possibly two-year examination, are required to pay a $10 fee. This covers 10 review sessions. It is advised that practicing engineers be accommodated.

**Laity Authors’ Article**

An article by Professor Clifford Laity, Head, HIS Department, was published in the Winter 1964 Correctional Program, which is a new program issued by the Montana College of Coastal Physicians of English. This letter concerns the need for people to be informed about the English language.

“An aide takes the lead in English, this year. The aide has written a number of stories on grammar, spelling, and punctuation. The aide has been working with students from the University of Montana, and has been working with junior high school, in metallurgy. He was also a member of the National Honor Society in high school. He has been a laboratory supervisor in Geology and Mineralogical engineering, and his wife resides at 1221 West Uphory Street.

**WILLIAM R. BANNING**

Banning, who is studying mineral-dressing engineering at Mines, is a graduate of Beaverhead County High School in Dillon and was a member of the National Honor Society at his high school. He has worked in surveying and carpentry. He graduated from Hughes, Mines, Inc., respectively, and is a graduate of Mines High School, in metallurgy. He was also a member of the National Honor Society in high school. He has been an officer of the club in Geology and Mineralogical engineering, and his wife resides at 1221 West Uphory Street.

**G. D. VILLENA**

The fourth of the semi-annual reviews was prepared by Mr. G. D. Villena, a native of Bolivia also a graduate student. Villena spoke on the subject of "Electrophoretic Measurement on Calcite IIB" and reviewed such concepts as the zeta-potential and electric double layer of cationic and anionic clay particles. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems. Villena then discussed some of the experimental results obtained with electrophoretic methods on synthetic clay systems.

**JOSEPH M. CADDY**

Neither of the students knew that he was to receive the award until the last minute. Banning found "a check for $250 with a little note attached" in his mailbox.

**Convolutions Features Audition Speaker**

*by Gary Treglow*

"A most enjoyable and informative program," remarked one member of the MSM faculty, Tuesday, March 10, following the Audition Program. This lecture is one of a series which Mr. Ferguson is presenting throughout our state as representatives.

Mr. Ferguson has his work cut out for him with a few short remarks concerning the importance of the motion of the earth and the changes which would occur if this motion were stopped. He then presented a film, "Once Around the Sun," which was shown in several areas, particularly in Nebraska and Colorado, when the winter and summer homes. The film is believed that the student can gain a good understanding of the importance of the motion of the earth and the changes which would occur if this motion were stopped.

Among the audience were several guest speakers, including Mr. Ferguson, who spoke about "The Curious World," which is carried on by 100 newspapers in the United States and Canada by November 1963.

He is now one of the many of the Audubon Society and travels throughout the country giving programs on our nation’s conservation. Among the Lecture Programs are "The Curious World," which is carried on by 100 newspapers in the United States and Canada by November 1963.

**WILLIAM FERGUSON**

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**STEIN’S EXPECTATIONS**

*by Lynn Eatery*

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PHILOSOPHY OF EDUCATION

Without meaning words, Montana School of Mines and the State of Montana are rapidly approaching a crisis. The educational practices now being pursued are leading to the deterioration of the college and to the acceptance of second-rate colleges in the rest of Montana.

It is our contention that the lack of dynamic approach toward education is curtailing the future of this institution and its students. The whole structure of our educational system appears to be falling apart.

When a college is founded in the first place, its usefulness by showing an adequate tally of warm bodies, then we feel that no matter how many warm bodies can be procured, the college will still not fulfill its purpose. Only when the college is hurting itself and its reputation by attempting a mass program to fill seats, but the people who fill these seats are bought by the lowest standards of education, is such a college likely to cease existence.

Education should never be justified in terms of numbers, or in terms of dollars. Those who ask, "Of what value is the student?" should be asked, "Who is the student?" Furthermore, Henry Newman's works, particularly that titled The Idea of a University, in a large respect, knowledge should be for its own sake. The student should be prepared to contribute to society through his work and by his ideas. Schools and colleges should provide the right environment for this development of the individual, and they should not have to turn pockets inside out.

The School of Mines cannot rise above the levels of a competent practitioner. Perhaps we did not stress sufficiently that for this entire philosophy of education that needs review-and revision. Serious changes must be made.

We do not tolerate poor or shoddy education; and, certainly, we do not tolerate in the methods used to achieve this education. The student should be able to ask, "What kind of education is it that I am getting? My life is this college?" should find sufficient answer in John Dewey's, "Why I Teach."

MATURITY

In our last issue of March 5, we proposed a different approach to class attendance than what is usually currently practiced. People are now realizing that a college's educational system is not a welfare system and cannot be feasible a mature system which must be envisaged by the student, and by the faculty toward the student. The structure of our educational system is changing, and the student with his individuality must be able to react to the change. The concept of education is changing. The teacher-student relationship will also be changed.

The student should be able to ask, "What kind of system is this?" and not feel that he is not capable of commanding respect. In addition, the student will respond childishly if he is so treated.

In other words, we are advocating toward required attendance; the Europeans, for instance, require no mandatory attendance. Instead, it is assumed that the student will follow the lecture series that are offered, to maintain the levels of his own work. The college insures his performance by not awarding graduation until a series of stiff examinations is successfully passed. Actually, this method of study places the burden of work on the student, but it also creates a better response in the student. We feel that in moderation, this system would work well here at MSM.

PRIMA FACIE

Students Appraise Mines

Covered by Mac Brennan

Following are some student views of their first look at college.

Mike Mayne: "After three years in the army, I was eager to see the school. The first day was a real eye-opener. I decided that college life was worthwhile."

Jane Kruse: "The Mines offers everything I wanted in a college-a social, cultural, and academic career. It's a place where students would expect,"

Marc Gardner: "The summer didn't seem long enough, and I was reluctant to leave it. I had definite thoughts about the Mines, but I was disappointed that it was not a place I could consider."

After being exposed to college life, I realized that college life would be like the college I attended before. I saw the college from the front, and not from the inside. My first day was surprising because of the high quality of the college. Life is better than I expected."

John Giacalone: "Being enrolled in college, I lost my weekly pay, but gained something money cannot buy-satisfaction." MSM has all the freedom of friendships among the students which makes one feel at home. The first day was surprising because of the high quality of the college. Life is better than I expected."

Midge Wimsten: "The first day of college was, in my opinion, the day of registration. My thoughts are "No more books."

There were no books on the first day; the college was separated from school and back to school. The college was completely lost on the first day. I enjoyed MSM very much and plan to spend only two years here."

Wendy Tupper: "I had a very exciting time at the school. I made some friends and I was surprised by the size of the college. I was completely lost on the first day. I enjoyed MSM very much and plan to spend only two years here."

Carol Patrick: "The first week was great. I met a lot of new people and they are wonderful."

Have You Heard?

A few of the crow raps are starting to Centennial Kards to the Mines marks end?"

It's really quite a place."

It looks like that Rudy Wachtler and Mike Arre are opening new nights in Denver. Too bad it's Illegal."

What are you going to do if you always have dreams in your life?"

You're never American if you haven't had your day!"

Don't forget to get your own personal copy of "The Metallurgy of Tomorrow.""

You've no doubt heard the saying, "You can't make men metals, but you can make men metal men.""

The American Society for Metals will hold its next banquet on March 11 at 7 p.m.

Here are a few of the most important speeches at the banquet.

The dance will have many inviting groups. A theme the club selected for this dance is "A Night in the Metropolis.""

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Shift Boss
To Margaret Gardner

What would compel a person to give up a well-established job and assume the role of a student? This question is posed by MR. L. Shuman, head of the Montana School of Mines. Mr. Shuman has decided to take the plunge by enrolling in the evening classes at the Montana School of Mines, where he has discovered the value of education. Mr. Shuman expressed his excitement for this new chapter in his life.

Arnold Buchanan

TV Programs Continue

Programs that have continued to air include: The Weather Channel, Discovery Channel, and National Geographic. These programs provide a wealth of information and entertainment for viewers.

Shift Boss
To Margaret Gardner

Award

The award range is from $2,500 to $3,000, and includes round-trip transportation from the home to the university town. This award also includes tuition, registration fees, essential books, and study materials. Board and incident expenses are covered in the country of study.

Admissions

Admissions requirements include: (1) a minimum GPA of 3.0 on a 4.0 scale; (2) a minimum ACT score of 24; and (3) a minimum SAT score of 1100.

Science Academy

To Meet in April

This year, the annual meetings of the Montana Academy of Sciences will be held on April 17-18 at the MSM campus. Dr. Adam J. Smith, vice-president of the Mathematics Statistics Section, hopes that all members and friends of the Montana Academy of Sciences "will plan to attend these meetings and actively participate in them."

Science Academy

To Meet in April

Here follows a general outline of the 1964 meetings:
- April 17, 1964
  - 1 p.m.-Board Meeting
  - 3 p.m.-Council Meeting
  - 5 p.m.-Annual Banquet
  - 8 p.m.-Address feature

Science Academy

To Meet in April

Saturday, April 18, 1964

Science Academy

To Meet in April

The purpose of the fellowships is to support graduate students and to provide an opportunity to develop research projects.

Science Academy

To Meet in April

To meet the qualifications, the fellowships require a minimum GPA of 3.0 on a 4.0 scale, a minimum GRE score of 1100, and a demonstration of leadership potential.

Science Academy

To Meet in April

Volunteers Needed

Science Academy

To Meet in April

The Rocky Mountain Association for Retarded Children, set up several projects in which students can participate as volunteers. In past summers, some of the Montana colleges have allowed college credit for courses dealing with mental retardation for observation and instruction. The State University Hospital of Nursing requires that the nursing students observe and assist in the nursery school classes.

Science Academy

To Meet in April

The Butte Chapter of the Rocky Mountain Association for Retarded Children is seeking Butte college students who could do volunteer work for the summer activities in June 1964. The program will include:
- (1) A summer day camp for school children, ages 6 to 12. Counseling and work are needed for boys and girls. The camp dates are the last two weeks in August.
- (2) A pilot education program in home economics and manual training for the older retarded students, to begin and continue until the summer day camp. Qualified teachers will have charge of the classes. Help is needed for individual work with the students.
- (3) The nursery school for retarded children will be in session during the summer (this school has been open since 1961). Student teachers in the primary grades might be interested in this phase of special education.

Science Academy

To Meet in April

It may be possible for students to receive academic credit for such work, and persons interested in this possibility should make inquiries and arrange programs of instruction.

Mr. G. L. Smit, who addressed the college March 2 and 3, about shaft-turning methods, is shown with his host, Prof. W. A. Vine, who, in conjunction with Stewart Hurburt, Anaconda Co., brought him to Butte.

Science Academy

To Meet in April

Don't Think Twice

Before You Buy THINK

It's The Place To Try

Burt's Friendliest Shoe Store

49-49 EAST PARK PLAZA

KOPR

The Varied Sound of MUSIC in Southwestern Montana

SOUTH JAMES COMMUNITY SCHOOL municipal library

5,000 WATTS

KOPR

Drive Inn

TRIBU-15 LS. OF BEER

WESTERN MONTANA

The Home of

IT'S THE PLACE TO TRY
Amadeus Mozart. Another great musician, Wolfgang Amadeus Mozart, was born in Austria. Habashi states that student admission to a concert area there, which consists of a steel- and asbestos-filled industrial plant, is required. "Employment of this type offers a wonderful opportunity for career advancement," he said.

Austria will have to be financed soon as possible. Transportation to the Deer Lodge Science Fair, to be held at the Vegas Club. Mines, the course was under the direction of Mr. Don Martin, assisted speakers gave informational ideas to the usual panaceas of raising the price of gold. Free-energy calculations of the reactions are studied through free-energy considerations of the reactions, and how they are affected by changes in temperature and pressure. Applications lie in stability fields in both economic mineral depositions. This talk was the first of a number of talks that we plan to give throughout the academic year to students in the Geology Department.

Dr. Koichi Habashi, associate professor of metallurgy at MSM, has spent approximately four and one-half years in the small European country of Austria. Although much of his period was spent in Vienna, Habashi spent some time in the Austrian town of Linz. While in Linz he worked in the industrial steel area, where a steel- and asbestos-filled industrial plant, because of his relationship with the officials of the steel plant, Ha- habashi is in a position to obtain summer employment in that area for any interested persons.

Thus, anyone intrigued by this offer should contact Dr. Habashi as soon as possible. Transportation to Austria will have to be financed by the individual, but is relatively inexpensive. Although the wage at the plant would not permit an extensive savings program, it would be sufficient to allow a reasonably comfortable tour of central Europe. As an example of the low cost of living in Austria, Habashi states that student admission to a concert area there is only ten cents.

Linz, situated between Salzburg and Vienna, is quite picturesque, being near such attractions as medieval castles. The town is something of a music center, being the home of the great musicians Wolfgang Amadeus Mozart, Johann Sebastian Bach, and is only a short distance from the city of Lud- zing, known for its musical fame. Linz is on only slightly to the west of Salzburg, the birthplace of another great composer, Johann Sebastian Bach.

Dr. Habashi states that "any individual presently attending college is eligible for this offer if he shows aptitude and has no previous language training in German. Employing European languages also type offers a wonderful opportunity to "learn to spell the German language" and to become acquainted with the Austrian way of life."

Time changes everything except something within which it is always possible to change—Thomas Hardy.
Do You Know Your Bureau of Mines?

by Lallie J. Mogus

Various projects are being carried out in office and field by the Montana Bureau of Mines and Geology in an effort to promote efficient development of Montana's mineral resources. Mining engineers and geologists of the bureau staff work closely with claim owners and small mine operators to help them develop their mineral properties.

"The principal aim of the Bureau," says Professor Uomo M. Sabine, associate director, "is to perform timely and pertinent studies of the mineral resources of Montana. The resources are continually being studied by the Bureau and the results are made available to all interested parties. Personal inquiries and inquiries from companies interested in establishing themselves in Montana or desiring to cooperate parties able to supply them with minerals or mineral products are given full and prompt attention."

One measure of friendship was not in the number of things the Bureau field office in Kalispell.

As a result of a co-operative project with the Federal Small Business Administration, The Handbook for Small Business Enterprises Engaged in Mining has been reviewed by the Federal agency, and is now available to the public. Dr. King is currently working on a "Collectors' Guidebook."

Do You Know Our Bureau

Pat Marx (24) lets one fly, as Frank Sopko (50) prepares to follow up. As a result of a co-operative project between the Federal Small Business Administration, The Handbook for Small Business Enterprises Engaged in Mining has been reviewed, and is now available to the public. Dr. King is currently working on a "Collectors' Guidebook."

Girls Cut Up In First-Aid Class

Ruth, the blissful; the familiar "maiden in distress" first-aid class turned into the plight of Ross Blath. The three young damsels taking the course—Paulette Kankelborg, Jeannine Rundle, and Dolly LaBranche—found Ross their favorite patient.

These girls are the first females in the history of MSM to take this course. Though they say they enjoyed the publicity, Ross' pride was more wounded than his body when he was pictured surrounded by solicitous females.

The young women found their teacher, Mr. Joe Hydro, most interesting and capable. Applying splints was the most fun, they all agreed. If a merk splint is properly applied, the patient can be "stood" on his head. Of course, the girls were in intense on testing their handiwork, but Ross promptly refused. Jeannine said she refused to admenly that at one point she felt the girls might all become "Dead" patients.

Each of the girls was impressed by the various means of applying artificial respiration, though they were very disappointed that months to months—respiration techniques were not practiced.

The Pacific Power & Light Company and the Great Northern Railroad Company are co-operators with the Bureau on the Kootenai-Flathead project, which involves the area geologic mapping and economic study of Lincoln, Flathead, and northern Lake Counties. This is the sixth and final year of the project. Reports in bulletin form have been printed yearly and a compilation will be issued on completion of the study.

W. M. Johns is geologist-in-charge of the project. His office field staff in Kalispell.

The museum fulfills the requirement of the law that the Bureau "collect typical geological and mineral specimens." The Montana School of Mines Mineralogical Museum collection, conservatively valued at $250,000, is under Bureau curatorship. J. M. Chelini is curator.

At the reception counter Lucille Honeymaker and Violet Garner, clerical personnel, are on hand to accept inquiries, direct literature, and sell maps at the Montana Bureau of Mines and Geology. Lallie J. Mogus is office manager.
**INTRAMURAL CHAMPIONS**

by Lyle Latham

The games played since the last issue of the Amplifier found the Boozers, Flinching Fives, Tau's Five, Tau Thinmen, Tapakegabrews, Tau III, Kotow's Group, and RHO I the victors in their games.

The games and high scorers are as follows:

Game Scorers and High-Point Men

Boozers 43 - Tau Thin-Men 62 - Tim Clark 14 points - Garcia 13 points - Derzay 26 points - Madison 21 points - Garcia 13 points - Madison 21 points


Tapakegabrews 54 - Tau III 45 - Garcia 13 points - Garcia 13 points - Garcia 13 points - Garcia 13 points - Garcia 13 points

The preceding games were the last of the season. The final league standing found the Boozers, Tau Thin-Men, Flunking Fives, Downey's Five, and RHO I as the victors in their respective games.

**Baseball Begins**

by Harry Keller

The intramural volleyball league was scheduled to begin March 16. Mr. Simchick announced that he will select the team rosters turned in, and that this is the largest number of teams ever to participate in this sport. The Amplifier will carry complete coverage of volleyball throughout the season.

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