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THE MINES MAGAZINE • JULY, 1970
THE Colorado School of Mines
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and graduate students Friday, May 29,
in its 96th annual commencement.
There were 23 undergraduate degrees
and 22 graduate degrees presented
on Jan. 15. There will be 26 degrees
awarded later this summer upon com-
pletion of work.

Receiving Mines' coveted sterling
silver diplomas were seven Doctorate
candidates, 25 Master of Science de-
gree candidates, five Master of Engi-
neering degree candidates and 8 Pro-
fessional Engineer degree candidates
which are awarded to seniors for hav-
ing completed the four and one-half-
year program to all graduate stu-
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GRADUATE STUDENTS, SENIORS, FACULTY, AND DISTINGUISHED ALUMNI are shown as they proceed from Guggenheim Hall to Steinhauer Field House for the 1970 Colorado School of Mines Commencement on May 29th.

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BACHELOR OF SCIENCE

William Eugene Parks, Mines, Cola.; Robert R. Chiurewski, Mines, Cola.; John E. Miller, Mines, Cola.; Robert F. Aldredge Memorial Prize, a cash award presented by Mr. and Mrs. F. C. Aldredge to the senior who has contributed the most to athletics, presented by Mr. and Mrs. F. C. Aldredge to Terry Duane Bauer.

A plaque awarded to the senior athlete with the highest scholastic achievement, presented in the names of the engineering societies, is the most deserving student athlete with the highest scholastic achievement, presented to Terry Duane Bauer.

Awards for outstanding scholastic achievement, presented by the respective departments, are the most deserving student athlete with the highest scholastic achievement, presented to Terry Duane Bauer.

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ANCIENT men lived in harmony with nature. This existence was precarious but he accepted the good and the bad as qualities beyond his control. He was, however, capable of developing an awareness of the natural phenomena he could not understand and the bad as qualities beyond his control. He recognized that weather was a part of the larger system of nature. He learned how to use the planet Earth and learned how to live with it. The simple but astute primitive observer that nature could be understood and that man could accept responsibility for it. What has often been called intellectual curiosity, as directed toward the exploration and understanding of materials for the survival of man’s society must be planetized — planetary — not national. Certainly international competition can’t be a necessity by society if it is to avert this inescapable circumstance.

If the earth shall provide the man-made systems that have been developed in jet aircraft; single, simple mathematic devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematical devices that have been developed in jet aircraft; single, simple mathematic
perspective. Those individuals who speak about restoring our inherited environment of pure air, pure rain, pure water, pure lakes, and pure conditions ignore the inevitability of change.

It has been calculated that more than 500 million tons of fossil material are buried in the earth annually, which is an increase of nearly 50 per cent in the past 50 million years. The amount is increasing constantly, and it is becoming an important agent in extremely local contexts.

We have long been led to believe that the acid rain falling on the face of our earth as part of a natural precipitation process. From the Hekla eruption in Iceland (1947) there have been 36 million tons of calcium compounds, two billion tons of sodium sulphate, and 150 million tons of table salt, two and one-half million tons of potassium bicarbonate, 250 million tons of calcium compounds, all in rain water.

Particulate matter and natural gases dispersed from the volcanoes is a continuing phenomenon. From eruptions alone, the Krakatau eruption in Java (1883), the Mount Katmai eruption in Alaska (1912), and the Katmai eruption in Alaska (1980) have been responsible for keeping our particulate matter in the air, both of dust and ash, and our particulate matter in the atmosphere to the surface of the earth as part of a natural precipitation process. From the Hekla eruption in Iceland (1947) there have been 36 million tons of calcium compounds, two billion tons of sodium sulphate, and 150 million tons of table salt, two and one-half million tons of potassium bicarbonate, 250 million tons of calcium compounds, all in rain water.

The lakes and ponds throughout the United States are being used as a natural source of energy. The lakes and ponds throughout the United States are being used as a natural source of energy. The lakes and ponds throughout the United States are being used as a natural source of energy.
Top Students Honored at Mines

MORE than 50 students of the Colorado School of Mines won special recognition at the Annual Honors Convocation in Guggenheim Auditorium, Wednesday, May 20, 1970.

The yearly convocation recognizes students who have won special scholarships, awards and prizes.

The ceremony was held in honor of the Mines graduating seniors and featured presentations by students and faculty members in the department.

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By geographic location, the honorees...
Annual CSM Alumni Banquet
Celebrating the 96th Commencement
Denver Athletic Club, Denver, Colo.
May 28, 1970, 6:30 P.M.

MORE than 350 Mines men, CSM faculty and administration, and guests attended the Annual Alumni Banquet held May 28, 1970 at the Denver Athletic Club.

After relaxing cocktails and a gourmet dinner, CSM Alumni President Hal Addington made the following introductions and comments:

"I am Hal Addington, Class of 1943, president of the Alumni Organization and also consulting petroleum engineer, here in Denver.

"Harrison Hays, 1931, is the vice president of the Alumni and is director of Project Development, Stearns-Roger Corp., Denver.

"Neal Harr, 1954, is the secretary of the Organization and a geologist with King Resources, Denver.

"Robert Maguire, 1957, is the treasurer, and was very choice, because he is a member of the staff at the Denver U. S. National Bank. This is his second year.

"Dick Vincent, 1933, was elected in 1968 and is now serving his third year on the Board. Dick is director of Metallurgical Research for American Metal Climax.

"Donald A. Craig, 1948, was elected a director last year, and is also vice president of Metal Treating and Research Corp., Denver. Don's son, Bruce, is a member of the 1970 graduating class.

"David S. Squibb, 1954, is serving his first year as a director. He is with Stearns-Roger Corp.

"I am sure that most of you know Dr. Orlo E. Childs, president of the Colorado School of Mines, and I would like to ask him to present the members of his staff and faculty that may be present.

"The Board of Trustees of the Colorado School of Mines consists of Mr. Ted Stockmar, president, and Board members Ed Eisenach, Russell Volk, William Alexander and Leo Bradley.

"We are always pleased to have Representative George Fentress, 1949, with us.

"Both the President of the Student Body, Charlie McNeil, and the President of the Senior Class, Charles Crew, are here this evening. We are proud to have those fine representatives of the students of the Colorado School of Mines with us at this time.

"Mr. Neil Harr will present the Class Agents for 1970 in the absence of Dr. Pegis who is unable to attend. The young men are Richard J. Kehmeier (Geology); Douglas J. Guion (Geophysics); Charles D. Crew (Metallurgy); Robert T. Roberts (Mining); Charles W. Bloomquist (Petroleum); Gregory R. Sheehan (Petroleum Refining); Robert E. Detter (Chemistry); Edward C. Karg, Jr. (Mathematics); Lee A. Turner (Physics).

"Steve Fuliaway, 1916, will present the annual Pullaway Award to the Outstanding Track Man, George Britt Bristol, a Junior, who holds the School record as a high jumper. He has inherited three years in track.

"The Pi Warren Annual Award is being given to Mike Colwell, a Sophomore, as the Outstanding Baseball Player on the Mines squad. Last year he received this award, and it was the first time it was ever given to a freshman. Mike has had an outstanding season again this year. Mike also received conference recognition in both 1968 and 1969 for his performance in football as a brilliant receiver and flanker. He is one of the four athletes who has been chosen by the Outstanding College Athletes of U.S.G.S. Geologic References
Do you still look for USGS geologic references by place names? The quick, accurate way is by latitude and longitude. Our Geologic Index is an easy-to-use reference finder kept current by Monthly Supplements, $15.00 per year, Quarterly, $9.00, or Yearly, $3.00. See Mines Magazine "Book Review" August, 1969 or write us for particulars. Each book sold is delivered to you completely up-to-date with supplements. Price $25.00. Used extensively in U.S. and Canada.

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Henny Kasten '70, Mike Hayes '70, Mike Colwell '71, Brutis Britten '71, and Charles Crew '70. Also shown (right) Paul Schiller '70, Charles McNair '71, Bob Bills '70, and Carl Winters '70.
The Colorado School of Mines has, for the past 27 years, recognized its outstanding graduates by conferring the Distinguished Achievement Medal at the Annual Commencement. The award represents the highest honor the School of Mines bestows on its own graduates.

Selection of the Medalists is made by the Board of Trustees of Mines, who have carefully evaluated, screened, and chosen those most eligible from among our distinguished graduates. The Distinguished Achievement Award is represented by a Silver Medalion emblazoned in Lucite, set on a walnut base. The record of accomplishments of each Medalist is permanently inscribed in a journal, a bound copy of this inscription is presented to each of the honored graduates. Since the achievement of each is reported in full at Commencement, we will only introduce each one this evening with a statement of his current position. They are:

- Aziz A. Alwattari, Petroleum Research Professor of Mineral Economics, University of Tulsa. He has written over 100 articles in MINES Magazine and other technical publications. In addition, he holds three United States Patents.
- J. Harlan Johnson, Master of Science, Class of 1927, Crawford, Texas. He received the Doctor of Philosophy degree from the University of Colorado. He was professor of Geology at Mines from 1947 until 1967 when he retired as Professor Emeritus. Dr. Johnson is the author of over 170 publications, largely on organic limestone and fossil algae, and is the author of a book, "Limestone-Building Algae and Algal Lineages."
- Robert E. Risser, Engineer of Mines, Class of 1937, from Urbana, Ill., is unable to attend the banquet. Since 1969, Dr. Risser has been professor of Mineral Economics, University of Illinois and principal mineral economic assistant, and assistant head of the Illinois Geological Survey. In January 1959, he became a visiting professor in the Department of Mineral Economics at the Colorado School of Mines. He is the author of more than 20 publications on many aspects of the mineral industries.

"Our Commencement Speaker, Dr. William Peecook, will receive an Honorary Degree, Doctor of Engineering. He has been the director of the United States Geological Survey, Department of the Interior, since 1951. For his research work in geologic science Dr. Peecook was elected to the National Academy of Sciences, American Academy of Arts and Sciences, and the Brazilian Academy of Sciences. He has published more than 60 papers in his field. In his earlier years, Dr. Peecook also achieved distinction as an outstanding athlete. He was intercollegiate fencing champion in 1933 and in 1936 a member of the United States Olympic Team.

"The Colorado School of Mines Alumni Foundation elects a number of individuals each year as Honorary Members. The requirement for this designation is that they are 'a friend of the institution and have contributed in some way to its well being.' This year five Honorary Members have been recommended by the membership and approved by the Board of Directors of Colorado School of Mines Foundation. They are:

- Dr. Otis E. Childs, who is retiring as President of the Colorado School of Mines. The changes on the campus and within the curriculum mark the effect made by him during his six years as president.
- Dr. Wm. J. Peecook, director, U. S. Geological Survey, for his outstanding work in geology and continued support given by him to the Colorado School of Mines.
- Dr. Robert H. Carpenter, Dept. of Geology, for his contributions not only in his official position with the department but for his intense and continued interest in the welfare of the foreign students on the campus by sponsoring the International Club. Dr. Carpenter should share this honor with his publication, for he has also played a great part in this endeavor.
- Prof. Robert D. Osterblom for his dedication as a teacher of mathematics. Professor Osterblom is retiring as of this end of the school year.
- Mr. Nils Swenson, for his expression of appreciation and love for the Mines School of Mines Foundation by donating a substantial gift which expressed his faith in the students, faculty and the administration of the Colorado School of Mines in maintaining their "cool" during these most trying times.

"In the interest of brevity we will not introduce the individual members of the classes who are here for their reunions. However, I thought you might be interested in some statistics. The Silver Anniversary Class of 1941 had 79 members in number by World War I. Only 40 graduated in that class of whom 21 are living and six are in attendance at this reunion. Since this is our Golden Anniversary Reunion I think it is proper to make an exception here and introduce the five who are present: Mr. Ethelbert Dowden, Debary, Fla.; Dr. Wm. S. Levings, Golden, Colo.; Mr. Frederick A. Lichtenthall, Oklahoma City, Okla.; Mr. Robert H. Carpenter, Tulsa, Okla.; Mr. W. H. C. Prommel, Denver, Colo.; Mr. Karl W. Reynolds, Fullerton, Calif.

"The Class of 1935 (35th Year) has 93 graduates, 74 of whom are still living and 15 of whom are expected at reunion. A letter from George Argall—"On his way to the 6th International Mining Congress in Madrid—expresses best wishes to members of the Class of 1935.

"The Class of 1930 (40th Year) contained 68 graduates of whom 49 are still living and nine are expected to be here. This is the first class before the spectacular crash of the 1920's. Shortly after graduation they met the crisis of October 1929 and for the next few years it was largely a case of 'root, hog, or die.'

"The Class of 1925 had 79 members of whom 48 are living and eight will be in attendance at the annual reunion.

"The Golden Anniversary Class of 1915 (50th Year) was also curtailed in number by World War I. Only 40 graduated in that class, of whom 21 are living and six are in attendance at this reunion. Since this is their Golden Anniversary Reunion I think it is proper to make an exception here and introduce the six who are present: Mr. Elmer Dowden, Debary, Fla.; Dr. Wm. S. Levings, Golden, Colo.; Mr. Frederick A. Lichtenthall, Oklahoma City, Okla.; Mr. Robert H. Carpenter, Tulsa, Okla.; Mr. W. H. C. Prommel, Denver, Colo.; Mr. Karl W. Reynolds, Fullerton, Calif.

"K. H. (Scotty) Matheson represents the Class of 1911 (39th Year)."
"John B. Carmen represents the Class of 1910 (60th Year).

"Warren Prosser from the Class of 1907 is here and will have completed 63 years since graduation, Mr. Prosser said that 'as a member of the Class of 1907 I sincerely hope that many of you of the Class of 1970 will return to celebrate your Golden Anniversary in 2020 A.D.'

"The end of the program is near, and it is time to name the man who runs the Alumni Association, Col. Weaidell W. Fertig, and his efficient staff: Mrs. Betty Becker, Mrs. Charlotte McKnight, Mrs. Jackie Simpson, Mrs. Shirley Ashlock, and Dean William Burger, who has been most successful as advertising manager of MINES Magazine. MINES Magazine Editor Carter Kaanta also is here tonight with his son, Henry, who graduates from Mines this summer. Another son, Carter W., now with IBM in Vermont, graduated from Mines in January with a Metallurgical Engineering degree. The boys' maternal and paternal grandfathers were also Mines graduates: C. W. Badgley '06 and Henry W. Kaanta '15.

"This is it—let's ask the fathers of sons in the Class of 1970 to stand. Now, will members of the Class of 1970 stand and be accepted in the ranks of one of the world's most exclusive clubs. Let's salute these fine young men who will carry on the tradition of the Colorado School of Mines long after we are gone!"

Members of the Class of 1935.

Class of 1921
Joseph P. Ruth

Class of 1922
Malcolm Collor and A. L. Pierre.

Class of 1923
E. J. Broek and Charles O. Parker.

Class of 1924
Harry L. McNell.

Class of 1925
Homer A. Goddard, William L. Judie, Ivan Salnikov, Frank J. Lavery.

Class of 1926
Meilord H. Balshure, Ruth Volk, G. C. Weaver, Arch Spread.

Class of 1927

Class of 1928
S. M. Del Rio.

Class of 1929
Neil S. Whitmore and Bob Williams.

Class of 1930
W. P. Morries, Robert N. Hastings, Bernard M. Betch, T. A. Manhart, George Fancher.

John R. McMinn, Lee Scott, J. L. Fusselman, R. P. Comstock, Martin Hegglund, Leo J. Goldman, Fred Hymen, B. J. Mayhew.

Class of 1940

Class of 1941

Class of 1942

Class of 1943

Class of 1945
Clyde V. Johnson.

Class of 1947
Albert Musgrove, M. John Berstein, Bob Magnus, Harry Hopp, Chuck Earnsair.

Class of 1940
Donald A. Craig, Don Nickerson, Arthur Lankenau, Jack Halter, Anthony Corbett, John J. Wenner.

Class of 1945
Ben H. Parker, Jr., Les Bradley, Dan Golbrath, Bob Turpyn, George Fournier, Don Siliprannone, Robert Coleman.

Class of 1951
John W. Carey, Wendell W. Perlty, Dave Johnson.

Class of 1953
Thomas M. Claren and Robert Johnson.

Class of 1955

Class of 1956

Class of 1957

Class of 1958
Donald A. Craig, Don Nickerson, Arthur Lankenau, Jack Halter, Anthony Corbett, John J. Wenner.

Class of 1960
Don L. Bingham.

Class of 1961

Class of 1962
Dean Wm. Burger (Hon.), and Woody Norman.

Class of 1963
Morris Mcelroy and John N. Klein.

Class of 1964

Class of 1965
Fabiano S. Lobato and Jerry Jensen.

Class of 1966
Nils Swenson and H. R. Volk, '76.

Class of 1967

Class of 1968

Class of 1969

Class of 1970

Nils Swenson and H. R. Volk, '76.

Last year Mr. Swenson gave $50,000 to Mines because he likes the way students handled the DRTC protest. (For details see the June 1969 Mines Magazine.)

Mill Design & Construction

APPROXIMATELY 140 people attended the annual Mill Design and Construction Banquet May 29. This occasion is an old tradition in the Mining Engineering Department.

The banquet was held in the newly renamed "Ben H. Parker Student Center." The attendance of students, families, and friends this year was the largest ever.

Terry Huser was awarded the Old Timer's Watch, the Old Timer's Club to a newly elected "Watchman" from the Colorado School of Mines. Other similar watches are given to selected students in other mining schools who have shown the way students have handled the DRTC protest. (See details p. 12, June 1969 Mines Magazine.)

This year's banquet marked the beginning of what is very much hoped will be a new tradition. The Mine Safety and Construction Department, through the courtesy of Jack Lohn, Denver area representative, gave each graduating mining engineering student a new "Safety" and a miner's belt. Whether this succeeds, the fact remains that this year's recipient was delighted with the gifts and are very much aware of the company's role in helping to improve the safety of mining and metallurgical operations. Graduates are expected to express envy, and our Junior mining engineering students have been much interested in whether the practice is likely to continue.

The Mining Engineering Department Graduation Breakfast is always held on the morning of Graduation Day. Alumni of the Department are particularly welcome.
The Colorado School of Mines has received a $317,000 grant from the State Department of Natural Resources to conduct a Statewide Land Use and Natural Resource Inventory (CLARI).

Project CLARI, the first of its kind in Colorado and the second in the nation, will be conducted through CSM’s Basic Engineering Department, under Dr. Arthur J. McNair, visiting professor from Cornell University. The first similar inventory survey was conducted by the state of New York from 1960 to 1969 by Cornell University. Presently the New York inventory is being expanded due to the demands upon the existing inventory data.

Under project CLARI the state’s 120,000 square miles will be divided into 2,837 “cells,” each cell being 10 kilometers (approximately six miles) on a side. Each of the individual cells will be evaluated for over 150 land use and natural resource items under five primary headings recognized by agencies such as NASA, Department of Interior, Department of Agriculture, Department of Commerce and National Academy of Sciences. The five major headings are: cartography; geology and mineral resources; hydrology and water resources; agriculture and forestry; and geography and cultural resources. These items in turn will be transferred to computer magnetic tape and stored for random reconstruction of the cell as a map with any of the specific items requested being placed to scale on the computer readable map display.

By utilization of electronic computers, photogrammetry, photo interpretation, and remote sensing the inventory will become a dynamic planning tool, providing planners statewide the opportunities of projecting future land uses.

Information for compiling the inventory will be gathered from aerial photographs, topographic maps, geological and soil conservation maps, highway department maps, reports of recreation, biological, water resources and other agencies, various state departments, local county and municipal governments, mapping organizations, public utility companies, and from other bulletins, folios and maps.

All information contained in air photos or obtained from supplementary maps and reports will be utilized by the air photo-interpreter and transferred to a 1,590,000 square mile map, (approximately four miles to the inch). Once the air photo interpreter and other staff members have gathered all useful information the data will be summarized by each specific cell. The grid cell, 10 kilometers square, becomes the key to all data handling, processing, storage, analysis and display.

The final computer output will be either tabular print-out form or map display form. The map display will be produced on 112 sheets which will comprise the entire state. Analysis of particular areas such as of individual counties or water sheds, can be performed on the individual 112 sheets. That is, it is not necessary to study the entire state at one time. The analysis provided by computer flexibility permits not only present studies to be made, but allows a planner or engineer to predict future land uses incorporating features such as population growth, development of water supplies, water pollution, air pollution, transportation systems, development of new resources, and literally dozens of other factors.

This method has been proven to be the most economical manner of analyzing and forecasting land data for the future.

The inventory of the state may be updated at anytime due to the digitized storage of the data, completed by a simple operation of re-examining photographs of the areas where changes have taken place. Additional information from sources other than maps or air photographs can be filed in the data bank as soon as the geographic position of the secondary data is known.

Expansion of the Colorado inventory in the future would be in the format of updated developments in specific areas and the expansion of the existing computer stored data over larger scaled maps composed of “cells” only one to five kilometers square. This type of larger scale would be used in areas of high density population, structure, or development. The advantage being that present data would be adequate as it exists on computer storage with only new data necessary to update the existing inventory.

Presently there is only one complete topographic map of Colorado that is at 1:250,000 scale (approximately one inch to four miles) which is compiled on 16 sheets made from 1946-1969. Approximately two-thirds of Colorado is mapped and 37 percent is topographically half of these maps are obsolete. In addition, topographic maps customarily show only a limited number of features. Many of the features not present on existing maps are land use, geology, agricultural and water resources.

As with any intelligence-gathering project using air photography, it will be necessary for field checks and identification to be performed so as to provide greater accuracy of the data. This travel throughout the state will be cooperated with visits to officials and individuals in the local areas who are knowledgeable about the natural resources and land uses in those areas.

Staff members of project CLARI will contact each county’s commissioners, and the mayor, city engineers, zoning commissions, or other public officials of each municipality in the state. They will describe the project, application of the project to their respective county or municipality, and the value of the program for both the state and their local area.

Staff members from CSM who will be involved in the project are from the basic engineering department, mathematics department, chemistry department, and geology department. Additional staff members will be joining the CSM staff from Colorado State University, and the University of Colorado. The “photo-interpreters” are either undergraduates or graduate students with various interests in the state and competence in any of the five major areas in the natural resource inventory. The students’ major areas are: geology, cartography, mathematics, civil engineering, biology, and archaeology and fine arts.

Completion of project CLARI is scheduled for Mar, 31, 1971.
Dr. E. Childs, who has announced his retirement as chairman of the Board of Trustees at Mines, will serve until the end of the current academic year. Dr. Childs is leaving mines to become vice president for Research at Texas Tech University.

Dr. Kuhn, who has served as an assistant professor of geology, became vice-president for administrative affairs at Mines in 1961. He joined the faculty in 1942 as an assistant professor of geology, became associate professor in 1945, professor in 1952, and served as dean of the Graduate School from 1953 to 1956.

By Dr. E. D. Woolsey

The position of the environment is usually described as a "social" problem, but this ignores the fact that the technology to solve it must be developed and implemented by the engineering profession. There is no question that the social sciences contribute greatly to sounding the alarm and helping to mobilize an aroused public to demand that something be done. But somewhere the buck has to stop, somebody has to do it, and that somebody is the engineering profession.

For the student who would rather carry a sign than study, it is certainly easier to go to a liberal arts institution, be socially aware for four years, emerge with a degree in social awareness, and be not better equipped to solve the problem than before. The only difference between schools that allow this sort of thing and a mental institution is that in order to get out of a mental institution you must show improvement.

The more difficult and more socially responsible course is to take up a course of study wherein, upon graduation, you are equipped to get to work on the problem.

In the words of Cyrano: "I issue one challenge to you all..." if you are really concerned, join us, start studying and learn to do something.

Dining Out

Meet the Crowd at—

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Three Mines Alumni Honored

Three Mines Alumni Association, Section, Colorado School of Mines Alumni Association, announces the following graduates of the Colorado School of Mines who have been selected for inclusion in the 1979 edition of "Outstanding Young Men of America." They are Vincent G. Giaita, 101 Linda Lane, Pittsburgh, Pa.; William A. Preston, 1329 Hamilton Ave., Palo Alto, Calif.; and Robert H. Waterman, Jr., 298 Warren Road, San Mateo, Calif.

"Outstanding Young Men of America" is sponsored by the non-profit American Youth Foundation. Men chosen are between the ages of 21 and 35, and according to John Putnam, president of the Foundation, "are working toward excellence in their careers and community service."

Giaita, a 1976 Colorado School of Mines graduate in metallurgical engineering, in management consulting with the Allegheny Ludlum Steel Corp. in Pittsburgh, Pa., who received a degree in geological engineering in 1966, in graduate school and after completing an industrial engineering division of the University of Denver Research Institute.

During this time he participated in a major study for the National Aeronautics and Space Administration (NASA). He has been particularly active in the area of environmental planning, data processing, management, and planning. In 1980 he was elected president of the San Francisco Chapter, Stanford Business School Alumni Association, and a member of that chapter's board of directors.

Waterman graduated with honors at Colorado School of Mines and received a master's degree in industrial administration at Stanford University. He returned to Pittsburgh in 1963 to work with the industrial division of the University of Denver Research Institute. During this time he participated in a major study for the National Aeronautics and Space Administration (NASA). He has been particularly active in the area of environmental planning, data processing, management, and planning. In 1980 he was elected president of the San Francisco Chapter, Stanford Business School Alumni Association, and a member of that chapter's board of directors.

"Outstanding Young Men of America" is an annual biographical compilation of a cross-section of America's significant leaders. Each year approximately 5,000 young men from throughout the country are selected by their alumni association. Members are made by chapters of the Junior Chamber of Commerce, NATO, AMA, and universities, and business leaders.

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With the Manufacturers

Blasting Machine (550)

A highly dependable, compact, pocket-size 10-Cap blasting machine has been developed by Fidelity Electric Co., Lancaster, Pa., for operations where a maximum of ten caps are to be fired simultaneously in a series circuit. Manually operated, the twist-handle DC generator has been designed to release a high energy output of sufficient duration to fire electric blasting caps and other explosive initiating equipment. Circle 550 on Reader Service Card.

Cleaning Unit (548)

Partake's new "500" Series water blast cleaning unit is especially effective in removing softer materials, such as paint, from all types of surfaces. Three models offer a broad range of pressures and volume combinations, powered by either an electric motor or a Volkswagen industrial engine. The model "300" shows it is equipped with the VW engine. (Partake Corp., P. O. Box 1823, Houston, Texas, 77002) Circle 548 on Reader Service Card.

Marine Cranes (552)

Bucyrus Erie Co. is introducing a line of completely hydraulic cranes for the marine industry for use in offshore drilling operations, dockside or shipboard cargo handling and for marine construction purposes. Due to their new design and detailed engineering features, they are also easily adaptable to practically any other type of marine application. Circle 552 on Reader Service Card.

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# WANT MORE INFORMATION?

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# QUANTIZER-SCALER (544)

A technician at California Aero-Topo Inc. digitizes a topo-graphic map with a three-axes version of H. Dell Fister Co.'s new graphique quantizer and accessory electronic scale. At the map at right is traced on the plotting table, the electronic scaler converts distances to map ratio. The scaled distances are counted and "quantized" in the H. Dell Fister unit. With the aid of the large stereo plotter at rear, drafting of the maps may also be done through three-dimension planes and can be transferred, and labeled by the quantizer. (Texas Instruments Inc., Dallas, Texas, 75222) Circle 544 on Reader Service Card.

# MARINE CRANES (552)

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Copper Range Given
Top Safety Award

Copper Range Co.'s White Pine, Min. mine has won the coveted
Award of Honor, the highest possible recognition
given industrial opera-
tions by the National Safety Council.
This marks the seventh time in
nine years that the White Pine Copper Co.,
which operates the mine, won one of
the two top awards, and the third
time it has won the top honor of
the Safety Council.

Coal Mining Complex
Near Centralia, Wash.
The Consulting Services Division,
McDowell Wellman Engineering Co.,
is presently engaged in mining studies
and engineering services for a strip
mine that will feed more than 18,000
tons of raw coal per day to a 1,400-
megawatt power plant under con-
struction in Centralia, Wash. The com-
plex is the first in a series of new
steam generating stations to be built
in the Pacific Northwest.

The mining project, which is sched-
uled to be in operation by the end of
1970, is a joint venture of the Pacific
Power and Light Co., Portland, Ore.,
and the Washington Irrigation and
Development Co.

Uranoim Development

According to a survey conducted
by the Atomic Energy Commission's
office in Grand Junction, Colo., the
domestic uranium industry is planning
about 24,000,000 feet of surface explo-
ratioii and development drilling dur-
ing calendar year 1970. This compares
with 30,000,000 feet actually drilled in
1969.

This survey information represents
the combined estimates of drilling
footage and associated costs for 12
companies. These companies project a
total of about 78,000,000 feet of drilling
during the four years 1970 through
1973 at a cost of $320 million
including technical and administrativa-
tive costs, but excluding costs for ac-
pquisition of lands and exploration
rights.

High Grade Copper Ore
At FRC's Bonney Mine

Federal Resources Corp. has en-
countered a 15-foot-wide vein of high
grade (5%) copper ore during de-
velopment work at the Bonney Mine
near Lordsburg, N. M.
The ore was found on the 2,000
level, which is the deepest workings in
the mine. The ore vein discovered is
of better width and grade than anticipated
and of a higher grade than current production from other areas
in the mine, the report said. The
length of the ore vein will be deter-
mined during mining operations.
Fritske said. Present production from the
property is at 65% of mill capacity
and will be increased in the near
future.

The company reported that the
three-compartment production shaft
was completed at the Camp Bird
silver-lead-zinc mine in Colorado.
Equipment is being installed on the
1,000-foot level and work began in June
on an access drift to the 8273 oreody. Mining should begin soon ther-
era.

Atlantic-Richfield
"New Look" Program

Atlantic Richfield Co. has an-
nounced launching of a $100-
million "New Look" program, the largest
in the history of the petroleum industry.
The company began June 8 to
market two new and improved grades
of gasoline under a single, coast-to-
coast name—ARCO—and will intro-
duce a third, lead-free, grade three
months ahead of schedule in the Los
Angeles basin.

Anti Pollution Program

The nation's second largest prime
producer of molybdenum, a metal
used to harden steel, is spending
almost $200,000 annually to stop water
pollution. Molybdenum Corporation of
America officials say the company's
Quostra Mines Division has spent $1.5
million toward developing a waste
disposal system to eradicate pollution.
The disposal facility, high in the
Sanrgo de Cristo mountains of north-
er New Mexico, has been expanded to
give the firm a total of $977 million
investment in its mine and mill—an
investment that was a bit more than
$30 million in 1962. The division now
has 225 employees on its $7 million
annual payroll. Molybdenum is being
used on manned space capsules be-
cause it is the only metal that can
withstanding heat on re-entry into the
earth's atmosphere. The metal
will also be used as a catalyst to free
hydrocarbon from lead and to help cut
down on air pollution, since mol-
lybdenum can be used to remove
carbon monoxide and other impurities
from automobile exhausts.
Second Inter-American Materials Technology Conference Aug. 24-27

More than 150 papers in the fields of materials technology and metallurgical education will be presented at the II Inter-American Materials Technology in Mexico City, Aug. 24-27.

The conference is expected to attract more than 800 scientists, engineers and educators from all countries of the western hemisphere. In addition to the sessions scheduled, an international exposition of equipment, publications and processes in the field of materials engineering will be presented.

Sponsors of the conference are the Southwest Research Institute of San Antonio, Texas, The Colegio de Ingenieros Mecanicos y Electricistas of Mexico, the Ford Foundation, the National Science Foundation, the Organization of American States, the U.S. Agency for International Development and The American Society of Mechanical Engineers.

Co-sponsors of the conference are the American Society for Engineering Education; American Society for Metals; American Society for Nondestructive Testing; American Society for Quality Control; Mexico Section; American Society for Testing and Materials; American Welding Society; Asociacion Brasileira de Metales; Asociacion de Ingenieros de Mina de So Paulo; Asociacion de Ingenieros Electricos y Mecanicos; Canadian Aeronautics and Space Institute; Canadian Institute of Mining and Metallurgy; Centro Paramarajo de Investigaciones; Colegio de Ingenieros de Guadalajara; Colegio Dominicano de Ingenieros; Council of Europe; Federacion Brasileira de Asociaciones de Ingenieros; Instituto Latinoamericano de Energia Fisica y del Aire; The Metallurgical Society of America; the American Institute of Mining, Metallurgical and Petroleum Engineers; National Association of Corrosion Engineers; Society of Mining Engineers; Sociedad Colombiana de Ingenieros; Sociedad de Ingenieros de Rio Grande del Sur; Sociedad de Ingenieros del Peru; Sociedad de Ingenieros y Arquitectos del Guayaquil; Society of Automotive Engineers; Society of Mining Engineers of the Americas; American Society for Metals; American Society of Civil Engineers; American Society for Quality Control; National Science Foundation; Organization of American States; the U.S. Agency for International Development and The American Society of Mechanical Engineers.

Proceedings of the conference will be available at the end of 1971.

Registration for the conference is $150, which includes sessions, a banquet, admission to all exhibits and transportation from headquarters hotels to the Unidad de Congreso del Centro Medico del Hospital de la Universidad, Mexico City. All sessions will be held in English and Spanish.

Harry F. McFarland is a professor of metallurgical engineering at the University of Utah. He supervised the development of overseas programs at the Leadville campus of Colorado Mountain College and the mining engineering program that CMC recently invited four Mexican students to enroll at Colorado's unique and innovative twin-campus community college on the top of the Continental Divide.

1960

L. B. Curtis, P.E., 1939, is president-elect of the Society of Petroleum Engineers of AIME. He will assume office as president in February, 1971. Mr. Curtis is manager of operations for Continental Oil Co., in New York. He has been a member of S.P.E. and a director of the AIME.

Speaking for the mining industry, Don Swann, of New York, N. Y., president for technology, Kennecott Copper Corp., praised Congress for aiding mining industry in its spreading awareness of the problems of air pollution throughout the United States. He said the mining industry is in full operation, supervised and controlled by both the Administration and the Congress in controlling air pollution.

The mining industry, Swann said, endorses the proposal to require immediate designation of all 111 air pollution central regions under the Clear Air Act. More than 75 per cent of the nation's population thus would be within federally designated regions leaving the remainder in smaller communities or rural areas.

"If you do manage to live within your means, I think you have done right," one man asked his friend. "That's all I can do to live within my credit!"

Charles R. Johnson, '49

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Partner, Black Hills Real Estate Co.

Casper, Wyoming

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Alumni Headliners

Dr. Ralph Bray, Electo Fellow
American Institute of Chemists

Dr. Ralph E. Bray, D.Sc., 1960, consulting engineer, Painville, Calif., has been elected a Fellow, named Dr. Truman H. Kuhn, vice president and administrator, executive officer of the Colorado School of Mines. The AIC has more than 30,000 members.

Dr. Bray received his B.S. in Met. Alloys from the University of Alberta in 1946 and his D.Sc. from the Colorado School of Mines in 1960. He is president of Willard Foi Sales Inc. and Murphy Foundation Exploration Inc. and his family lives in Panana.

Charles Bruce Production Mgr.

Dr. Charles Bruce, Geo. E. 1957, has been named production manager of the Mawata, N.J., plant for M&G Chemicals Inc., a subsidiary of American Can Co.

Mr. Bruce, prior to this appointment, served as plant engineer at the Mawata facility and as project engineer, manufactured services on behalf of the company.

M&G is a leading manufacturer and supplier of polyurethane, industrial chemicals, coatings, and chemicals, and recycles metal resources.

Mr. Bruce holds a degree in geology from the Colorado School of Mines. He has served as director of the Geological Society of Bolivia and the Bolivia-Johnson Research Foundation.

Dr. Bruce is also the author of a technical paper on "Gravitationally Driven Methods for Tin Exploration," and co-author of a paper on "The Ore Deposits of Bolivia... Their Origin and Problems."

Mr. Bruce is a member of the American Institute of Mining Engineers, American Institute of Professional Engineers, and the Lincolny (N.J.) Volunteer Fire Dept. He resides with his wife, Eleanor, and son, Scott, at 241 Neville Rd., Lincoln, N.J.

Dr. Kellar is chairman of the Planning Committee, and it is hoped that the general scheme for the celebration can be continued and that so much detail work can be brought into public view. The extensive celebration envisages many important meetings in the new facilities on the campus and the return of former graduates, and a forecast of events to take place at the celebration in the first decade of the next 100 years of the Colorado School of Mines.

Dr. Kellogg Research Director
For King Resources Company

Dr. Harold E. Kellogg, Geo. E. 1960, King Resources Co., research administrator and manager of geological research, has been named director of research for the company. Dr. Kellogg has been with King Resources Co. since August, 1960. He is a graduate of Arrows, Colo., High School, received a Geological Eng. degree from the Colorado School of Mines in 1955 and a Doctor of Phil. degree from the University of Denver in 1960.

Dr. Kellogg joined American Overseas Petroleum, Ltd., a foreign subsidiary of Texaco, Inc., and Standard Oil of California in 1960 and for seven years was engaged in exploration for oil and gas in Turkey, Morocco, Mexico, Nigeria and Libya.

In Libya he participated in the exploration effort that led to the discovery of the giant Nafura oil field and was head of the North Africa Regional Studies Group for American Overseas Petroleum, Ltd. Subsequently he was on the exploration staff of Texaco, Inc., in Hilting, Mont., for two and a half years.

Dr. Kellogg and his wife, Eva, have two children, Scott, 9, and Doris, 18.

Leon D. Keller Granted Patent on Improved Upflow HydroSizer

Leon D. Keller, M.Sc., 1943, has been granted U.S. Patent No. 3,676,360, on his improved upflow hydrohydrocyclone. The new device reduces water consumption and provides effective handling of metallurgical and related process sludges over a wide range of particle sizes. The unit has been supplied to Denver-Oliver Incorporated, Bannock, Colo., with whom Mr. Keller is associated as resident manager, industrial equipment sales.

The new upflow mechanism provides absolute separation of particles, sharply controlled size/size, high solids concentration and positive removal of oversize fractions. As a result, subsequent dewatering of slurries is greatly simplified. Subsequent filter operation is improved. The removal of finely divided silica slimes from an iron ore concentrate raises the quality of the final product.

The rake arms of the thickener mechanism move to the center of each succeeding nozzle. In this manner, the desired critical separation between overflow and underflow, and/or re-overs of the slimes is maintained, as well as high solids concentrations and dewatering.

The rake structure sweeps over the inducer, and the diffuser water pressure against the discharge resistance of the nozzles and the hydraulic head of pulp in the tank. The rate of discharge and rate of overflow with the slimes is controlled to give the desired critical separation between overflow and underflow, and/or re-overs of the slimes.

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Fogarty Commencement Speaker

At College of Santa Fe

Dr. Charles F. Fogarty, E.M., 1912 and D.S.E., 1934, president of Texas Gulf Sulphur Co., presented the twenty-first commencement address of the College of Santa Fe on May 10 in the CFH gymnasium.

A native of Denver, Colo., Dr. Fogarty became an orphan at the age of 19 and was one of the first students at a school for underprivileged boys, called the J. K. Mullen Home for Boys at Ft. Logan, Colo. Mullen was conducted by the Christian Brothers, the same teaching order as that at the College of Santa Fe. While at the school, the young Fogarty was a math-student of Brother Cyril Links, F.S.C., who is now president of CSF.

After his education at Mullen, Dr. Fogarty's opportunity for college came in the form of a scholarship from a Denver newspaper, which allowed the recipient to choose any college or university in Colorado.

"After a lot of deliberation," Dr. Fogarty said, "I decided the Colorado School of Mines was the best for me in my financial condition," Dr. Fogarty recalled. "The doors of the school helped me get a job and I earned room and board by waiting tables and washing dishes in a fraternity house." In his spare time and weekends, Dr. Fogarty could be found pounding a typewriter, typing term papers for fellow students at 10 cents a page. During his senior year, he also earned $10 a month in ROTC.

Graduation in June 1942 found Dr. Fogarty with a mining engineering degree just the property of the American Cup of Engineers. His ROTC training dictated the military assignment and he was sent to Fort Leonard Wood, Mo., as a second lieutenant. During the war, he spent the years at Fort Wood and various other posts as an instructor for replacement engineers, rising to the rank of major. It was at the Missouri post that he met an Army nurse named Wilma W. Wells, who became his wife on Oct. 14, 1943.

From 1946 to 1950 he was a senior geologist with Socony Vacuum Oil Co. in Texas. He then returned to the Colorado School of Mines, where in 1952 Dr. Fogarty joined the Texas Gulf Sulphur Co. and spent his early years on exploration assignments in Japan, Australia, and the West.

Dr. James Boyd Elected Chairman Copper Range Board of Directors

AMES BOYD, MSc, 1912 and D.S.E., 1924, president of Copper Range Co., recently was elected chairman of the board of directors of Copper Range Co., the nation's fifth largest producer of primary copper, after serving 10 years as corporate president and executive vice president from 1954 to 1964, and also elected to succeed Mr. Boyd from Mitzi Boyer until he was replaced by Dr. Boyd.

Mr. Boyd elicits a long and varied record in the minerals industries with his election as chairman. Until his retirement in 1964, Mr. Boyd was chairman of the company since its founding and elected to succeed Mr. Boyd from Mitzi Boyer until he was replaced by Dr. Boyd.

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Report on Uranium in Southern U. S.

"Uranium in the Southern United States" is being made available by the Atomic Energy Commission and the Southern Idaho Public Service Nuclear Board.

Dear Mr. Editor:

Some recent articles in Scientific American, Life, Science News, and Mining Engineering have been mentioning the report "Uranium in the Southern United States." There have been a number of papers on uranium in the SINR region conducted by the AEC, published in the Survey during the 1969-60 period. It contains a number of discussions on radioactive occurrences as well as an extensive bibliography of references pertaining to the geology and uranium potential of the 17 southern and southwestern states.

These surveys were conducted by the SINR, including the Main Line survey of Arkansas, Tennessee, Mississippi, Missouri, North Carolina, and Georgia; and the New Mexico survey.


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eral and their by-products extracted from the earth—cooper, lead, zinc, iron, building stone, tar, uranium, mineral fuels, and many others. The products of the many covered.


To Consulting Work

A comprehensive guide to consulting with helpful "how-to" suggestions. Coverage includes contracts, proposal writing, technical and corporate, from the pick and shovel to the subterranean. The book's introductory chapter summarizes the glories of success, reviews the and staff organizational changes at NBS, and notes developments related to automotive safety and broader protection from fireable fabrics. This is followed by a feature on the rapidly expanding program of the Bureau's Center for Computer Science and Technology.


Study of the Brine Of Great Salt Lake

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Colorado School of Mines

Colorado School of Mines recently received the National Science Foundation grants totaling $20,200.

The following departments have received grants: Basic Engineering $15,000; Physics $10,000 and Metallurgy $5,200.

The Basic Engineering grant entitled "Structure of Scallow Field Mixed by Turbulence for Arbitrary Schmidt Numbers" will deal with the construction of pipe water systems for the investigation of properties in turbulent velocity fields and scalar contaminants mixed by turbulence. Principal investigator will be Dr. Douglas J. Kooi. The project will continue through the 1970-1971 school year with additional funds allotted for research assistants, including tuition.

The Physics Department grant entitled "Mostly, but not exclusively, of Paul G. Horard, head of the Metallurgy Department, will be director of the grant.

Sixteen ROTC Cadets Commissioned Second Lieutenant Mines

SIXTEEN senior ROTC cadets were commissioned as second lieutenants in the U.S. Army Corps of Engineers at graduation ceremonies conducted on the Colorado School of Mines campus. Colonel Cecil C. Baldwin, professor of Military Science at Mines and a graduate of the U.S. Military Academy, said the Oath of Office to the new officers in the President's Room of the College Union before an audience of parents and friends.

The new officers gained their commission by successfully completing the ROTC program at the School of Mines and the requirements for the degree. Twenty-four other senior cadets from Mines will receive their commission at the graduation in June, after they have completed a six-week ROTC summer camp this summer.
**Trustees.**

**Mines Chorus.**

School of Mines was held Thursday, was presented by Dr. Childs and response, and the dedicatory plaque dedication ceremonies.

The deduction program concluded Dr. Orlo E. Childs made introduc­

to him that the student activity the Colorado School of Mines Research

Dr. Parker was instructor in geol­

daCollege Union, the stu­

ments, and friends at the Ben H. Parker

IN HONOR OF DR. PARKER

STUDENT CENTER NAMED

School of Mines in Gold­

showing standing beside the dedicatory plaque honoring the late Dr. Ben H. Parker

THE MINES MAGAZINE • JULY, 1970

THE MINES MAGAZINE • JULY, 1970

Bear the Colorado School of Mines Chorus.

Heading the Colts' list of returning veterans is football all-time quarterback, Johnny Unitas, entering his 15th season. Last year "Johnny U," com­

arched six feet and weighs 205 pounds.

The推荐 was adopted im­

Because the Colorado School of Mines Research

Dr. Parker was named a director of

Don拇指erman, general manager of the College, and Fred Breunolds, di­

Towards the end of his career, he was forced to withdraw from his after-work plans. He was in the school's football team, but he was now the full-time student at the College.

The immediate success of the football team was announced by the school's athletic director, Dr. Orlo E. Childs. He made an introduction before the assembled faculty and students, saying, "The convenience location of Golden and the finest facilities at the School of Mines made our choice for the training camp an easy one," said Klot­

terma.

The Baltimore team finished second last year in the Coastal Division of the National Football League with an 8-3-1 record under coach Don McCafferty. Now Shula has departed for the head coaching post with the Miami Dol­

fter the death of Dr. Parker, the student body through the College Union Advisory Board and the Student Council recommended to the Board of Trustees that the building be dedicated in Dr. Parker's memory. The recommendation was adopted im­

Dr. Parker had a life-long interest in the School of Mines, and it is a tribute to him that the student activity center be named in his honor.

He graduated with an Engineer of Mines degree in 1934, and gained his Master of Science degree in 1935 and Doctor of Science in 1936. He received a Distinguished Achievement Medal in 1952.

Dr. Parker was instructor in geol­

Defensively, leading the Baltimore

The recommendation was adopted im­

ments, and friends at the Ben H. Parker

New Olver, who has been fmaiized by the Colts, and Fritz Brennecke, di­

Baltimore Colts Train at Mines

THERE are many talented fans who led Mat­

The Baltimore Colts pro football team will set up training camp at the Colorado School of Mines in Golden August 15 and will stay until September 5.

Old timers' watch is presented by Prof. Al Kossany to Terry Rejay (left picture) and Chad Reynolds King, (right picture) with hand bat from Jack Leach (bottom picture).

OLD TIMERS' WATCH IS PRESENTED BY PROF. AL KOSSENY TO TERRY REJAY (LEFT PICTURE) AND CHAD REYNOLDS KING, (RIGHT PICTURE) WITH HAND BAT FROM JACK LEACH (BOTTOM PICTURE).

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Three High School Graduates Receive Tuition Awards

THERE is a high school graduate who has accepted a special tu­

The nation's 1955 high school graduates have accepted special tu­

Two of the graduates who were honored were already well known in the community. Chad Reynolds King, of 2412 Sante­

He was a student council representative and served as Sophomore Class President. George is six feet and weighs 205 pounds.

Dr. Parker was named a director of

The recommendations were adopted im­

ments, and friends at the Ben H. Parker

In the upper 20 per cent of his class and was a member of the Na­

The landlord figured that when it came to complaints, he'd heard them all. Then a tenant called to ask for more heat: "My apartment is so cold that every time I open the front door the light goes on!"

No matter how much you nurse a grudge it won't get better.

"Wow!" exclaimed the customer, looking at the price tag of a new compact car. "Six thousand dollars!"

"Well," shrugged the salesman, "if you want economy, you have to pay for it.

A parking meter is a device that lets you do two hours shopping in three.

The doctor was having trouble di­

I'm sending off my stethoscope, "I hate to tell you this, but you've got it again."

"Hey, I've just been made vice president of our firm!" a man ex­

"Big deal," snorted his offspring. "I've been a director for months. The neighborhood supermarket has so many, it even has one in charge of prunes.

The retort bothered him, so he called his landlord. "I want a new one of those," he said. "It gets stuck all the time."
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