

Man-Made Diamonds

Process for Making Synthetic Gems Developed in Mineral Science Lab

By JOEL MYERS

The High Temperature-Pressure Laboratory in the Mineral Science building has been used in developing a process for making diamonds at lower temperatures and pressures than can be done anywhere else in the world.

Dr. Rustum Roy, professor of geochemistry, said this process has never been used to create diamonds, but that it could easily be applied to duplicate them.

The special new operation puts energy into crystals, causing reactions to accelerate several hundred thousand times their normal speed.

This project is just one of many that are going on in the High Temperature-Pressure Laboratory, which claims the most extensive facilities in the United States and probably the world.

One of the main research projects in progress at this time deals with the exploration of the formation of various substances found in the interior of the earth.

When one considers that the earth itself is a giant high pressure laboratory, he can see why the University's laboratory is very useful in duplicating processes that are going on within the earth's interior.

The pressure at the center of the earth has been estimated at 45 million pounds per square inch. When we compare this to the atmospheric pressure, which is 15 pounds per square inch, we have some idea of the tremendous magnitude with which the geochemists are working.

The scientists who have been working with this laboratory have generated pressures as high as one million pounds per square inch. They also have developed pressures 15 times greater than this for a few millionths of a second by using shock waves.

These higher pressures would be more useful if they could be sustained over a longer time interval. The geochemists hope to obtain these greater pressures over longer periods in the foreseeable future.

The high pressures that have been created in this laboratory have also been used to form new compounds. These new compounds have proven useful to private industry, since they have greater hardness and higher melting points than similar substances that are found in nature.

Roy, who is in charge of the laboratory, pointed out that high pressures are a rather new experimental variable in the field of chemistry. The factors that effect chemical activity the most are composition, pressure and temperature. Up to this time most chemical experiments have dealt with composition and temperature, because pressure has been the most difficult of the three to change.

—We judge ourselves by what we feel are our capabilities — the world judges us by what we accomplish.



100,000 TIMES—That is how many times that this asbestos crystal structure has been magnified. This picture, which was taken by the electron microscope, shows the internal structure of a synthetic substance that was developed under high pressures.

Kerster to Talk APi Mu Holds On Gang Wars 22nd Initiation

"Gang Warfare and the Puerto Rican Problem in New York City" will be the topic of Harold Kerster's speech at the Sociology Club at 7 tonight in 211 Boucke.

All students, especially those interested in psychology, sociology and rehabilitation, will be able to hear Kerster's experiences, which are the basis for the novel "Cool World." This novel deals with 100-150 gangs in the New York Puerto Rican section.

Kerster is a graduate of Columbia University's New York School of Social Work and at present is a Youth Board worker in the Puerto Rican section of New York City.

His philosophy is to go out to the client rather than wait until the client comes to a social agency.

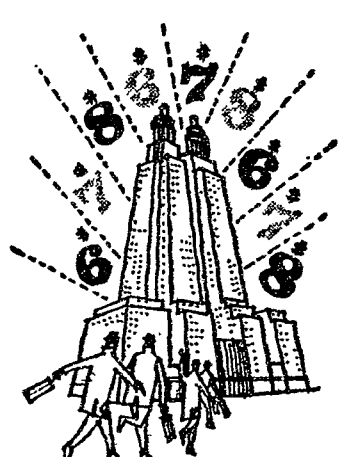
—The majority of accidents between Jan. 1 and Oct. 31, 1959, were caused by drivers in the 24 to 34 age group in State College, according to the education committee of the Borough Traffic Commission. The national accident-prone age group is 20 to 24.

The Penn State Chapter of Alpha Pi Mu, industrial engineering honor society, held its 22nd biannual initiation Friday in the Hetzel Union Building.

Eight new members were initiated into the society. They are John Villarreal, Melvin Hoffman, Mark Paterno, Anthony Mortimer, Robert Hodgson, John Harris, David Garman and John Detwiler.

Newly received as honorary members were Carl R. Moss and E. Scott Roscoe, associate professors of industrial engineering Harold S. Haller, a practicing attorney from Pittsburgh, was received as an alumni member.

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Portion Of Benner Pike To Close

A portion of the Benner Pike which leads from Bellefonte to State College will again be closed from Centre Furnace to State College starting Monday, H. R. Imbt, Inc. contractors said.

The Highway Department said that Branch Rd. will be the detour to be used by motorists. This road was used as a detour during construction on the recently completed four-lane highway.

The alternate route runs through Lemont and joins Rt. 322 just south of the Autoport.

Highway officials said they knew nothing of the proposal to improve a dirt road as a detour which leads from Centre Furnace to the site of the new football stadium.

When the four-lane construction was underway, the contractors had an agreement with the State to keep the pike open for local traffic. However, for this particular phase of construction, no such agreement has been reached.

Specifically, Benner Pike will be closed to permit construction of a bridge that will cross College Ave. at a point between the present entrance to the campus and the road to the sewage treatment plant.

Crossley Gets 4th Term In Radio League Post

Gilbert L. Crossley, assistant professor of electrical engineering, has received notice from the headquarters of the American Radio Relay League of his reelection for the fourth term of two years, as director of the Atlantic Division.

National Chess Championships To Be Held

The National Intercollegiate Individual Chess Championships will be held Dec. 28-30 at the University.

Frank Brady, business manager of the United States Chess Federation, will direct the 6-round tournament.

Participation is open to anyone who pays a \$5 entrance fee and is a member of the USCF.

Co-sponsoring the tournament with the University are the Intercollegiate Chess League of America and the USCF.

Prizes offered include a guaranteed minimum \$100 scholarship.

The tournament operates on a basis that provides for team competition and individual competition in alternate years. Presently, the individual title is held by Charles Kalme, of the University of Pennsylvania, while the University of Chicago holds the team title.

A business meeting will precede the start of the tournament.

—Stars and stripes in the American flag were suggested by the coat of arms of the Washington family

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CHRISTMAS VACATION BUS SCHEDULE:

Leaving from State College on:	FRI., Dec. 18
THUR., Dec. 17	11:15 a.m.
11:15 a.m.	12:05 a.m.
3:25 p.m.	3:05 a.m.
6:50 p.m.	6:05 p.m.

Meets eastbound trains:

1:22 p.m.
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8:10 a.m.

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buses will meet all p.m. westbound trains

RESERVATIONS received 8 hrs in advance will be appreciated

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