

ticularly useful in the construction of airplanes and space vehicles.

"The Chinese geologists also have discovered very large iron and copper deposits that from reports would appear to compare with any of the world's first rate deposits of these valuable metals, Dr. Chao said. New deposits of boron, potash and chromium also have resulted from surveys made by the "geological workers," as well as important sources of radioactive minerals.

The production of tungsten, tin and antimony, for which China has been world famous for nearly half a century, also has shown a marked increase under the Chinese Communists. In recent years, Communist China had been the foremost world producer of tungsten and antimony, world-significant export metals; and she is now the second ranking producer of tin.

This progress, Dr. Chao pointed out, is being made by a country whose geologic research is still virtually in its infancy.

He underscored the strong Russian influence that "permeates some areas of thinking in Chinese geology." Many field and laboratory procedures are patterned after the Russians, Dr. Chao said. More than 400 Russian geologists and engineers have visited China and participated in field geologic work or training program in China, in the past ten years.

• Science News Letter, 79:3 January 7, 1961

Poor Man's Space Probe

➤ METEORS, which become "shooting stars" when burning up in the earth's atmosphere, are the "poor man's space probe," Dr. Edward Anders of the University of Chicago told the American Association for the Advancement of Science meeting in New York.

Dr. Anders was named winner of a top award, the Newcomb Cleveland \$1,000 Prize, for his new theory on the life and death of meteorites.

From the viewpoint of learning about the nature of cosmic radiation, Dr. Anders said that a "meteorite is nothing but a 'poor man's space probe' that was launched quite unceremoniously somewhere in the asteroidal belt sometime during the last two billion years and was recovered recently without assistance from the Air Force."

He believes that asteroidal-size bodies were formed from primordial cosmic dust. These bodies underwent volcanic-like eruptions, cooled to sub-zero temperatures, collided with each other in space and broke up into meteorites.

The maximum size of these asteroids, parent bodies of meteorites, was not more than 300 miles in diameter. The asteroidal belt, birthplace of meteorites, is located between the orbits of Mars and Jupiter.

The parent bodies were formed early in the history of the solar system, four and a half to five billion years ago, Dr. Anders reported.

Meteorites, Dr. Anders said, offer clues to such fundamental questions as the origin and age of the chemical elements, the origin of life, the age of the earth, the relation between cosmic rays and the sun, and even such down-to-earth ones as "the wearing

away of missile nose cones during passage through the atmosphere."

At the present rate of progress in the study of meteorites, which has greatly increased recently, he predicted that in another two years or so scientists would have "acquired a thorough understanding of the nuclear events that preceded the formation of the solar system."

• Science News Letter, 79:4 January 7, 1961

Gangs Poorly Organized

➤ VIOLENT JUVENILE gangs are not the close-knit organizations they are generally assumed to be.

This basic misconception produces inaccurate reports and causes ineffectual remedial action work with gangs, Dr. Lewis Yablonsky, University of Michigan sociologist and a visiting lecturer at Harvard University, reported.

These gangs are better characterized as "near-groups." They have disturbed leadership, shifting membership, limited definition of membership requirements, impermanence and a minimal consensus of norms, he reported to the American Association for the Advancement of Science meeting in New York.

In treating the gang, the removal of the leader and his commitment for psychiatric observation is essential.

A community should not take the position that gang activity, which often results in violence or senseless killings, is rational, normal behavior," Dr. Yablonsky said.

"With gang behavior stigmatized as 'crazy or nutty' many youths would not participate in the gang and its violence," Dr. Yablonsky said. There is glory in being known as tough but none in being known as sick by gang youths, he noted.

The gang followers are not as disturbed as the leaders. They can be reasoned with and led into constructive activities.

He urged local citizens to work with youths in various constructive community activity projects. This would minimize a basic current cause of delinquency—the breakdown of adult-youth relationship, Dr. Yablonsky said.

He initiated such a project, the Adult-Youth Association in a high-delinquency area in New York. The program has involved more than 600 youngsters in productive interaction working with about 40 cooperative local adults. It has helped reduce delinquency, gang violence and youth problems in the area.

Delinquency also could be decreased by improvements in the more traditional correctional services of probation, parole and institutional facilities.

• Science News Letter, 79:4 January 7, 1961

GENERAL SCIENCE

Raw Materials Shortage In U. S. and Canada

➤ BY 1980 the United States and Canada will need twice as much industrial raw material as they now use. Because of this high rate of consumption, these countries can no longer be classified as surplus ma-

terials areas, stated Wilbert G. Fritz of the U. S. Office of Civil and Defense Mobilization in a special report prepared for the Canadian-American Committee.

During the next 20 years, the United States and Canada will become more dependent upon each other for sources of industrial raw materials. The United States will import more iron ore, natural gas and nickel from Canada, and Canada will depend upon the United States for more coal, molybdenum and phosphate.

In addition to the transfer of raw materials across the border, both countries will also rely more heavily on overseas sources of supply.

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