

CHEMISTRY

Electric Method Sorts Organic and Amino Acids

➤ ORGANIC ACIDS can be sorted and as many as 20 at one time separated from an equal number of amino acids, characteristic of life processes.

By an electric method similar to the well-known process of chromatography, movement of chemicals in solution across the surface of a sheet of filter paper is hastened by application of a small electric current at high voltage.

Careful regulation of the solution's acidity forces the organic acids to travel in one direction across the paper, toward the anode, while the positively charged amino acids move in the opposite direction.

Spraying the paper with suitable chemicals then reveals colored spots of the individual acids at various distances across the paper from the center where the original drops of mixed solution had been applied.

Details of the method are reported in *Nature* (July 7) by Dr. D. Gross of the Research Laboratory, Tate and Lyle, Ltd., Keston, Kent, England.

Four groups of organic acids are separated in comparing the speed at which they travel across the paper. They are represented by oxalic acid, moving fastest, maleic acid, pyruvic acid, and the slowest which range from fumaric to succinic. These, combined with the 21 amino acids, require a strip of paper 100 centimeters, or 39 inches, long to record the full analysis.

Science News Letter, August 11, 1956

PHYSICS

Breakthrough on Missile Hinted at by Scientist

➤ A MAJOR BREAKTHROUGH in development of the intercontinental ballistics missile, a way to get a missile back into the atmosphere without destroying it, seems to have been made.

In a carefully worded statement, a leading scientist in one phase of the missile's development program said that "a scientific short-cut" will soon solve a problem now holding up development of this nation's ICBM.

Dr. Lloyd P. Smith, president of AVCO Manufacturing Corporation's research and advanced development division, Stratford, Conn., reported that the problem of re-entry will soon be conquered. The problem has been how to keep the missile from burning up or vaporizing through the action of enormous air friction as happens to most meteorites hitting the earth's atmosphere.

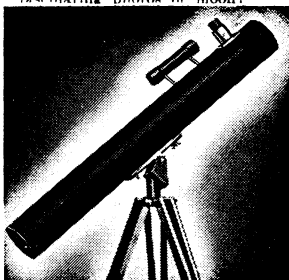
AVCO scientists are currently conducting experiments with shock tubes that permit study of simulated extreme speeds and of temperatures much higher than those at the sun's surface. The speeds and temperatures involved, the scientists say, are of the same order as those that will be encountered by an ICBM nose cone at the end of its journey through space.

Science News Letter, August 11, 1956

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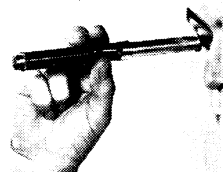
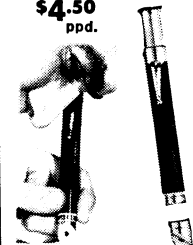
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