

SCIENCE

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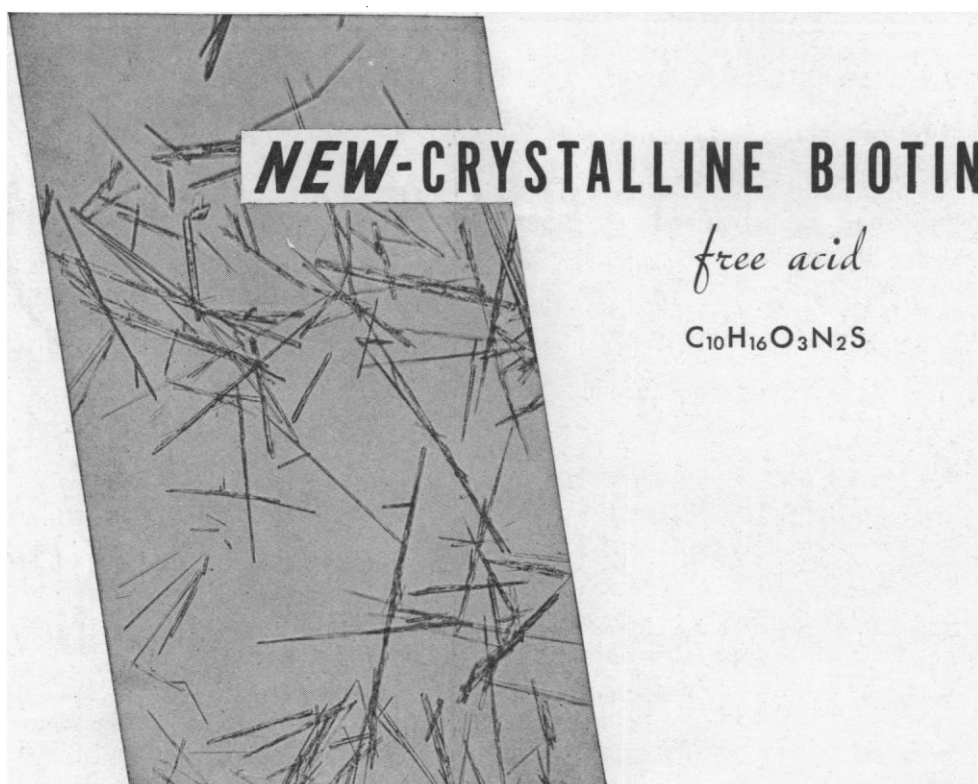
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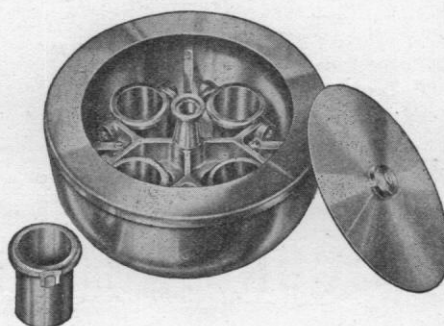
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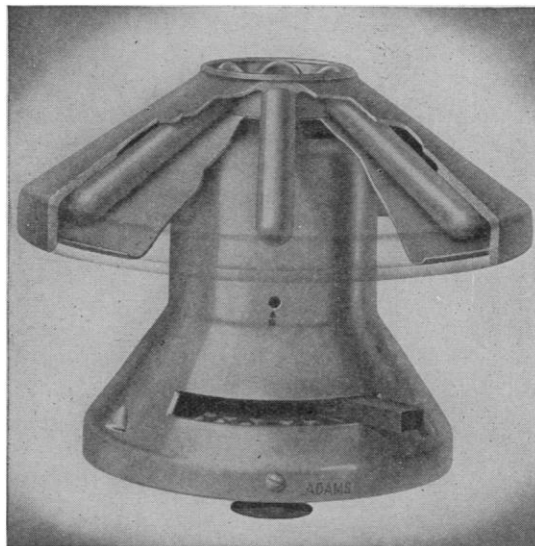
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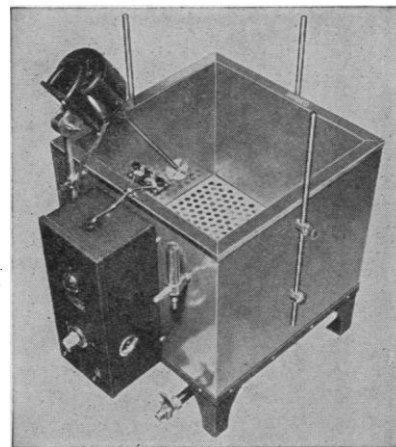


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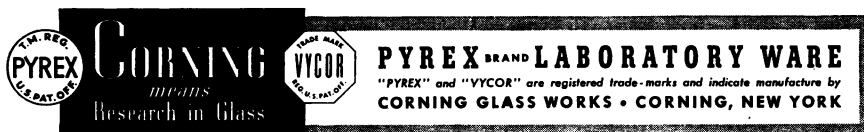
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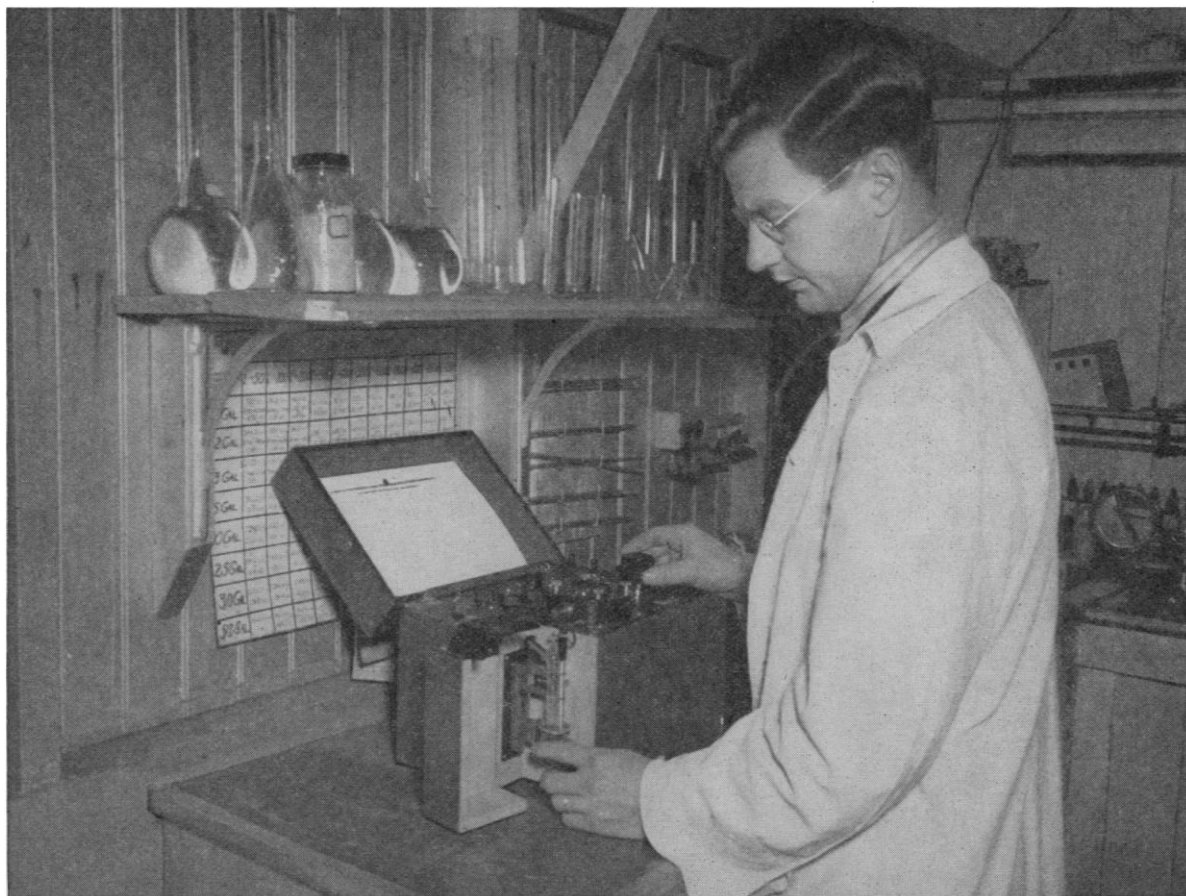
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PHYSIOLOGY OF THE AMINO ACIDS¹

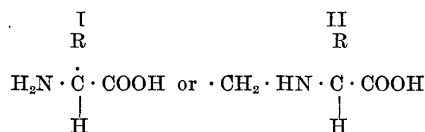
By Dr. DONALD D. VAN SLYKE

THE HOSPITAL OF THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, NEW YORK, N. Y.

Amino Acid Structure of the Proteins. The tissues of our bodies, skin, muscle, tendon, are chiefly protein substances. The number of proteins in the animal and vegetable world appears to be infinite. Yet they are all constructed of about twenty-one units, called the amino acids. These have an extraordinary ability to link together in chains in numbers up to thousands. One definition of infinity might be the possible number of different protein molecules that could be built by permutations and combinations of the amino acids. The extraordinary thing, in fact, is that nature ever succeeds in duplicating a protein molecule. Perhaps she never does exactly. But she comes so close to it

that so far as we can tell the casein of cow's milk is always the same, the proteins of muscle seem to be constant in their properties, and so on through the list of proteins that make up the familiar animal and vegetable structures of which we are constructed and on which we live.

The common structure which all the amino acids possess, and which permits this chain-making, may be formulated as:



¹ From an address given at the Centennial Celebration of the University of Chicago, September, 1941.

All the amino acids except proline and hydroxypro-

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By
Robert W. Hegner

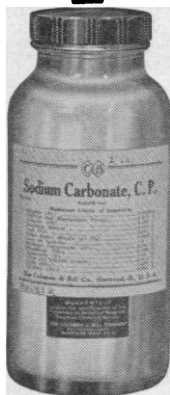
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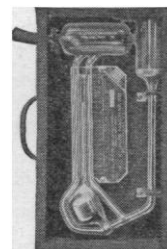
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