

# German Synthesizes Respiration Ferment

Physiological Chemistry

The respiration ferment, described as ruling the organic world, has been produced artificially in the laboratory by Prof. Hans Fischer of Munich, who has thus made one of the most important contributions in the history of biochemistry, the chemistry of living matter. His achievement is far-reaching and may lead to isolation of the vitamins themselves.

Prof. Fischer's work confirms the research of Dr. Otto Warburg, who last year demonstrated the nature and role of this important ferment. The respiration ferment is a hemin compound and its synthesis makes possible the artificial production of hemoglobin, the red coloring matter of the blood. In the higher animals, hemoglobin is a transport agency for oxygen, carrying it from one place in the body to another. But the respiration ferment is a substance which takes up the atmospheric oxygen, which was transported by the hemoglobin, and transfers it to certain organic substances which in turn

become oxidized. The respiration ferment or enzyme rules the organic world, because in everything that happens in living matter, respiration furnishes the driving force. It is found in all living cells.

The synthesis of this compound is a good example of how optical instruments can aid in the solution of biochemical problems. Transmittency measurements, measurements of transmission or absorption of light, assisted in the solution of this problem.

Dr. Warburg, seeking a method to prove whether or not the respiration ferment was a hemin, measured the absorption spectra of a model pigment, hemonicotin, and determined its action curve. He then obtained the action curve of the respiration ferment, using yeast cells in which it is contained. Similarity between the action curve of the respiration ferment and of a true hemin compound showed that the ferment was a hemin compound also.

It is this compound that Prof. Fischer has just synthesized. This respiration ferment may become therapeutically important. It is a question whether it is more or less important than the four pyrrol nuclei with which Prof. Fischer started its synthesis. Hemin and chlorophyll, the green coloring matter of plants, both contain these four pyrrol nuclei. It is possible that the vitamins may be found in these very pyrrol nuclei. In that case, organic chemists even today have vitamins by the ounce in their laboratories and do not even know it.

Science News-Letter, March 2, 1929

The high melting point of tungsten, above 3,000 degrees Centigrade, enables this metal to carry the heavy currents needed in bright illumination.

The first successful descent in a parachute recorded in history was made by the Chinese Emperor Shun, more than 2,200 years before Christ.

## Narcosan No Drug Cure

Medicine

Narcosan, alleged cure for drug addiction put forward more than two years ago, has been tried and found wanting by the Mayor's Committee of New York on drug addiction. Studies of the Narcosan treatment have been conducted at the Bellevue Hospital since May, 1928.

"The results reported here show clearly that Narcosan has no merit as a specific treatment of drug addiction," announced the committee in a communication to *The Journal of the American Medical Association*. The Narcosan treatment was given to 68 patients, addicts to morphine and heroin. The conclusions as to the merit of this and other treatments were based on the number and intensity of the withdrawal symptoms.

The occurrence and relative intensity of seven most characteristic symptoms noted when drug addicts are deprived of the drug were studied in 100 control cases. This furnished a basis for comparison with the various specific treatments, of which Narcosan was one. Clear-cut results were obtained. In the Narcosan-treated group greater occurrence and intensity of all seven symptoms were observed.

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SCIENCE NEWS-LETTER, The Weekly Summary of Current Science. Published by Science Service, Inc., the Institution for the Popularization of Science organized under the auspices of the National Academy of Sciences, the National Research Council and the American Association for the Advancement of Science.

Edited by Watson Davis.

Publication Office, 1918 Harford Ave., Baltimore, Md. Editorial and Executive Office, 21st and B Sts., N. W., Washington, D. C. Address all communications to Washington, D. C. Cable address: Scienserve, Washington.

Entered as second class matter October 1, 1926, at the postoffice at Baltimore, Md., under the act of March 3, 1879. Established in mimeographed form March 13, 1922. Title registered as trade-mark, U. S. Patent Office.

Subscription rate—\$5.00 a year postpaid. 15 cents a copy. Ten or more copies to same address, 5 cents a copy. Special reduced subscription rates are available to members of the American Association for the Advancement of Science.

Advertising rates furnished on application.

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