

Germany's New Scientific Researches Reported

The most important meeting of German scientists, that of the Association of German Natural Scientists and Physicians, has just been held at Duesseldorf. Below are reports of this meeting written by Science Service's Berlin Correspondent, Dr. Maxim Bing, and transmitted to America by cable.

MEDICINE

Dead Brought To Life

Bringing the dead to life, or at least restoring life to persons apparently dead of paralysis of the lungs and heart stoppage, is the miracle of modern surgery described before the Association of German Natural Scientists and Physicians by Prof. O. Bruns of the University of Koenigsburg. This is a disease combination that has up to the present been regarded as hopeless.

Prof. Bruns opens the chest of an apparently lifeless patient and massages the motionless heart, at the same time administering oxygen by artificial respiration. He has found that the blood will absorb as much as 86 per cent. of oxygen, and he credits the success of his operations more to its use than to the surgical massage. The oxygen, he says, stimulates the heart to renewed action by irritation of the cardiac muscles.

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MEDICINE

Heart Hormone Discovered

A discovery which is regarded as of great future importance in medicine and surgery is that of the hormone, or ductless gland secretion, responsible for the action of the heart. Prof. Ludwig Haberlandt of the University of Innsbruck, Austria, obtained the substance in an extract made from the hearts of frogs. It is soluble in alcohol but not in ether, and will pass through animal membranes when in solution. It is not destroyed by heating at ordinary laboratory temperatures. It powerfully accelerates the pulse and at the same time decreases the blood pressure. So potent is the substance that it will cause even a totally dead heart to contract. Physicians here believe that it will soon come into use as a new cardiac tonic.

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PHYSICS

Smaller Than Electron

New evidence that there is another world of almost infinite minuteness, beyond the electron which only recently replaced the atom as the smallest thing in the universe, was brought forward by Prof. Felix Ehrenhaft of Vienna University at the meeting

of the Association of German Natural Scientists and Physicians. Prof. Ehrenhaft's data were obtained by means of a new and highly powerful apparatus for ultra-microscopic examination devised by himself, which makes possible the observation of particles far below the limits of ordinary microscopic visibility, floating freely in a gaseous atmosphere in a magnetic field.

He observed in this magnetized sub-microscopic field the behavior of globular bits of gaseous selenium with diameters of only one two-hundred-fifty-thousandth of an inch. Their rate of drift, under the influence of the magnet, indicated that the electric charges they carried were less than the equivalent of one electron. This would indicate, according to Prof. Ehrenhaft, that the electron is subdivisible and therefore that something smaller than the electron exists.

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CHEMISTRY—MEDICINE

Synthetic Rival To Quinine

Malaria, the most obstinate of the tropical diseases in its resistance to the advance of modern medicine, may have its hold broken at last, by a synthetic drug resembling quinine but declared to be much more powerful, produced in the laboratories of the Elberfelder Farbenfabriken. The discovery created a sensation when it was announced at the meeting of the Association of German Natural Scientists and Physicians, and it was declared that it has a significance comparable to that of Bayer 205, the remedy for African sleeping sickness, which converts hitherto plague-stricken areas into potential homes for men.

Quinine, for centuries the only known specific for malaria and still the standard remedy, does not wholly conquer the disease, especially some tropical forms of it. It is quickly fatal to certain of the malarial parasites, but other strains of the microbes resist it. The new remedy, which has been christened "Plasmochin," wipes them all out impartially. It is thus regarded as a complete cure, in contrast to the merely partial effectiveness of the extract of natural cinchona bark. Physicians say that there is now hope of killing off malaria germs until they are as extinct as the dinosaur and the dodo, simply by clearing up the blood of all malaria patients until there are no more of the dreaded microbes for the Anophe-

les mosquito to carry. Exactly the same sort of thing has been done with yellow fever, they point out, and that without a specific curative drug with which the physician might help the sanitarian. With plasmochin the conquest of malaria should be easier than that of "yellow jack," in spite of the wider incidence of the former malady.

The new remedy is said to be easier to take than quinine, because it has no bitter taste. Heavy doses are sometimes followed by cyanosis or blueness of the skin, but this is of brief duration. Upsetting of the stomach rarely occurs, and the patient's blood cells are not attacked.

The discovery of plasmochin was not a matter of lucky chance, but the result of a deliberately planned campaign of chemical and biological research. Not one preparation, but several, in a series of increasing potency, were sought. The first malaria cure worked out was one for a mild form of the disease that afflicts birds and sometimes makes life miserable for pet canaries. Then a second compound was elaborated which would cure the type of malaria with which physicians sometimes inoculate men to cure them of progressive paralysis. Finally the attack was made on severe cases of malaria, naturally acquired.

The exact chemical structure of plasmochin was not revealed. It was frankly stated that the discoverers feared that their work might be pirated and exploited by outsiders.

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MEDICINE

Hemp Poison Standardized

The poison of the hemp plant, important both in legitimate medicine and in drug addictions under the name of hasheesh or bhang, has been studied and standardized by Prof. W. Wiechowski of the German University at Prague. Prof. Wiechowski has discovered that the poisonous principle can be entirely extracted with petrol ether. One-tenth of a cubic centimeter of this extract, or about two drops, will kill a laboratory mouse. It is stated that it will now be possible to control the strength of medical preparations using hemp, which have hitherto been of uneven potency and hence sometimes unsafe to use.

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Dr. Paul Heymans of Massachusetts Institute of Technology has split a second into one billion parts.