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### *THE NEW TREATMENT OF PNEUMONIA*

ONE of the most profound students of the role of the nervous system in disease is Dr. Alexei Dmitrievich **Speransky**. His book, *A Basis for the Theory of Medicine*, available in English, is one of the most original of medical treatises; it has attracted a great deal of attention and is exerting a pronounced influence on certain aspects of medical thinking. According to **Speransky**, disease is not merely the disorganization of normal processes, but the creation of new conditions unknown to physiology.

**Speransky** was born December 30, 1887, in what was then known as Vyatka and is now Kirov. At the age of 23 he received his degree in medicine from Kazan State University. His early interest was surgery, and at the end of the First World War he became professor of surgery at Irkutsk State University. After about three years of teaching he decided that his main interest lay in research.

In 1923 Dr. **Speransky** became associated with Pavlov, the leading physiologist in Russia. The following year he was appointed director of an independent laboratory and soon thereafter assumed an important place in the All-Union Institute of Experimental Medicine.

Speransky's interests lie mainly in the physiology of the nervous system. He was particularly interested in the role that the nervous system played in infectious diseases. It was his belief that many so-called direct effects of infection were in reality a reflection of the disturbed function in the nervous system. He evolved his now famous theory which includes

new ideas as to the pathology of measles, malaria, scarlet fever, rheumatism, syphilis and other infectious diseases.

He evolved new methods of treating infections as well as infectious diseases. His treatment consisted of the injection of serum intravenously and then applying his "pumping" method. By "pumping" is meant the repeated withdrawal and reintroduction of cerebrospinal fluid under special circumstances. The results were encouraging. Animals infected with dysentery and diphtheria recovered, while control animals given the same quantity of serum but omitting the "pumping" technique died. These methods were also used in hospitals on human patients in the treatment of scarlet fever, tetanus and cerebrospinal meningitis.

The greatest details were evolved in studying the effects of the disease processes on the nervous system. Speransky devoted all his time and efforts in ascertaining the role of the nervous system in the cause of disease. From numerous data he promulgated the theory that many systemic diseases are the external manifestations of changes in the nervous system. What it amounts to is this. Every infectious disease inflicts some sort of injury on the nervous system. Consequently, we have the direct effect of the germ, virus or germ toxin on the tissues and its indirect effect mediated by the altered nervous system. It is Speransky's contention that every infectious disease produces a specific effect on the nervous system which results in a specific symptom complex. The final result is what Speransky calls "a picture of the disease."

Speransky's life work has been concerned with an explanation of all disease on a neurophysiological basis. In 1929 he published his first book on this theory, *The Nervous System in Pathology*. In 1935 he published his famous work, *A Basis for the Theory of Medicine*, which has since then been translated into many languages and has attracted world-wide attention.



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The main theses of this book are:

1. Many disease changes, such as ulcers, gangrene, dental caries and drug rashes, the causes of which have been regarded as independent of nervous influences, have been found to depend entirely on such influences.

2. Other disease processes which do not belong to the first group, such as specific infectious diseases, depend partly on the nervous component for their general state.

His work has been highly regarded by the Soviet Union. During the Second World War he held a very important military position. When hostilities ceased he became the head of the department of pathologic-physiology in V.I.E.M. (The All-Union Institute of Experimental Medicine). He also holds the title of Honorary Scientist of the U.S.S.R.

Within recent years Dr. Speransky has discovered some very interesting facts about lobar pneumonia and has evolved a new and effective method for treating it.

He began by experimental studies on animals, especially rabbits. These experiments were aimed at creating conditions in which the specific changes in separate lobes would be permanent rather than temporary. Since lobar pneumonia generally develops unexpectedly in man, it was necessary to determine the intensity of nervous stimulation that produced deep-seated changes in the lungs.

The preliminary experiments were carried out in Dr. Speransky's laboratories by Drs. S. E. Lebedinska and A. M. Chernukh. Rabbits were given a light, volatile narcotic, followed by an injection of 1-2 c.c. of 10-25 per cent turpentine emulsion. On awakening from the anesthetic the rabbit sat, moved about, but was apathetic and refused food. Later, difficulty in breathing developed and in 18-30 hours the rabbit died. The lung changes disclosed at autopsy resembled those found in lobar pneumonia.

As a result of these experiments, Dr. Speransky concluded that certain nerve disturbances produce constant initial