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**NATURAL
NIDALITY
OF
TRANSMISSIBLE
DISEASES**

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NATURAL NIDALITY OF TRANSMISSIBLE DISEASES

IN RELATION TO LANDSCAPE
EPIDEMIOLOGY
OF ZOOANTHROPONOSES

TRANSLATED FROM THE RUSSIAN BY YURI SHIROKOV

PEACE PUBLISHERS
MOSCOW

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ПРИРОДНАЯ ОЧАГОВСТЬ
ТРАНСМИССИВНЫХ БОЛЕЗНЕЙ

В СВЯЗИ С ЛАНДШАФТНОЙ ЭПИДЕМИОЛОГИЕЙ
ЗООАНТРОПОНОЗОВ

ИЗДАТЕЛЬСТВО «НАУКА» МОСКВА — ЛЕНИНГРАД

На английском языке

Academician E. PAVLOVSKY

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This book contains an exposition of the theory of natural nidality of transmissible diseases. A successful study of this theory is closely related to a combined use of the ecologoparasitological, faunistic and biological methods forming the backbone of theoretical and clinical research in medicine. In the final analysis it provides the basis for the control of diseases with natural foci, particularly in view of their relationships with specific geographical landscapes, desolate, sparsely populated, or modified by human activities. The book is intended for biologists and physicians.

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P R E F A C E

The present book is the first attempt at giving a systematic exposition of the theory of natural nidality of transmissible diseases in man. Since the basic principles of this multilateral theory were published in 1939, literature on its various aspects and specific details has come into being and continues to increase. It is natural that in the first variant of its exposition this extensive literature could be used only partially.

Although the author makes reservations concerning a partial use of the new literature on the subject, the editors will nevertheless appreciate readers' comments on the structure of the book, and their suggestions for its improvement and enrichment with the most important material from the extensive literature available. The author has also drawn upon the advice and useful suggestions of many of his pupils, followers and associates. Though their names are not listed so as not to make them even remotely responsible for his statements, their friendly assistance is acknowledged with gratitude.

All criticisms and suggestions should be addressed to the Peace Publishers, Moscow, U.S.S.R.

Editors

THE BASIC PRINCIPLES OF THE THEORY OF NATURAL
NIDALITY OF DISEASESZONOSSES, ANTHROPONOSSES, ZOOANTHROPONOSSES,
TRANSMISSIBLE DISEASES

There are a great many diseases of man, animals and plants on Earth. The diseases of animals are grouped under the term *zoonoses* (derived from the Greek *zoion*—animal and *nozós*—disease). Many *zoonoses* are common *only* to animals and do not occur in man (for example, plague in cattle, pigs, etc.). Some *zoonoses*, however, can under certain circumstances be transmitted from sick animals to man directly or by a vector. The vectors are various invertebrate animals, mainly bloodsucking ticks and insects which, on biting a sick man or animal (or a healthy parasite host) ingest a disease-producing agent. When they subsequently bite a healthy man or animal, this agent is transmitted to the latter. Such diseases are known as *transmissible* diseases.

By this mode of transmission of a disease-producing agent by vectors certain *zoonoses*, for example, rabies, etc., are communicated to man. Also listed among such *zoonoses* are cases of asymptomatic invasion by microbes which, when transmitted to humans, exhibit obvious virulence.

The diseases in this group are called *zooanthroposes* or *anthropozoonoses*, i.e., diseases common to animals and man (from the Greek *anthropos*—man, *zoion*—animal, *nozós*—disease) irrespective of their route of transmission to man.

But there are also certain diseases which at the present stage of evolution of the animal kingdom occur exclusively in man. They are few, however, for example, measles, scarlet fever and diphtheria among *non-transmissible* diseases, and human malaria among *transmissible* ones. Such diseases occurring only in man are grouped under the name of *anthroposes*.

Hereafter these terms will be used without further explanation of the general meaning of the names of disease groups. This, how-