

GERMINATION IN ITS ELECTRICAL ASPECT

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Germination in its electrical aspect by A. E. Baines

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A. E. BAINES

**GERMINATION IN
ITS ELECTRICAL
ASPECT**

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IN

ITS ELECTRICAL ASPECT

A CONSECUTIVE ACCOUNT OF THE ELECTRO-PHYSIOLOGICAL
PROCESSES CONCERNED IN EVOLUTION, FROM THE FORMATION
OF THE POLLEN-GRAIN, TO THE COMPLETED STRUCTURE OF
THE SEEDLING

TOGETHER WITH
SOME FURTHER STUDIES IN ELECTRO-PHYSIOLOGY

BY
A. E. BAINES

*Author of Studies in Electro-Physiology, Electro-Pathology
and Therapeutics, etc.*

WITH OVER 130 DRAWINGS FROM ORIGINAL
PHOTOGRAPHS

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GEORGE ROUTLEDGE & SONS, LTD.
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1921

*This Work is Dedicated to the Educated
Men and Women of the World, in the
hope and belief that some of them, free
from the shackles of scientific jealousy
and unhampered by medical "ethics,"
will come forward and assist in the
dissemination of a Great Truth.*

PREFACE

WHEN this book, a plainly written account of laborious research, passes into the hands of reviewers I would ask those gentlemen to remember that a great humanitarian question is involved and that while my personal opinion upon matters of detail may seem worthy of attack, the fundamental truth I have put forward, first in *Electro-Pathology and Therapeutics*, second in *Studies in Electro-Physiology* and for the third time in the present volume is of too great importance to mankind to be passed over, or to be, to all intents and purposes, shelved, by saying there is very little that is new in it.

One outcome of my research work has been Dielectric Therapy, the use of a standardised paraffin in the treatment of local pyrexia. There is abundant evidence to prove that by the use of this remedial agent pneumonia can be deprived of its danger in a few hours, that it removes all pain from burns in a few seconds and that as it does not interfere with metabolism it promises to displace the antiseptic method of treatment of wounds. If that is not new why, I ask, is there no mention of paraffin as a remedy for local pyrexia in the *Pharmacopœia*? Many hundreds of physicians have had experience of its efficacy.

What I have endeavoured to do is to study natural processes and to find out exactly what happens and how it happens, and I hit upon a line of research which has been productive of enlightenment. It has enabled me to explain many things that were lacking of explanation and to view physiological problems from a new standpoint; to peer through the door opening into a hitherto unexplored field and to describe such things as I have been able to see.

It is not fair play to suggest that my work has, in any way, in any degree, been anticipated by Burdon-Sanderson's studies of a leaf of Venus's fly-trap, or by the academic labours of Professor Bose, because it is not true. Nor is it understandable why if physiologists are capable and experienced electricians they fail to tell us anything about the human electrical system.

The issue is a plain one : I am either right or I am wrong. If I am right then a brighter prospect opens for humanity. If I am wrong—and it would be a very extraordinary thing to find so long a chain of coincidences—it is easy enough to prove me to be so by giving another and more intelligible explanation of vital phenomena. In the meantime there is no explanation, other than that for which I am responsible ; although Dr. Geo. W. Crile and, I have no doubt, other able men are close upon the heels of the truth.

In the present work I have attempted, and I think it is the first time it has been attempted, to give a consecutive account of the electro-physiological processes concerned in evolution, from the formation of the pollen grain to the completion of the structure of the young plant. In regard to the other Studies in Electro-Physiology which help to swell the volume I would point out that the thesis upon the Auditory Apparatus opens up a, I submit, more detailed and reasonable theory of the operation of what has been called "the Mechanism of Hearing" than others which, in more senses than one, have gone before it.

A. E. BAINES.

SYNOPSIS

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Trying to get back to the beginning of some form of life. The animal foetus and the seed. Sexual reproduction in the plant. Fertilisation of the ovule and development of the embryo. Motile and non-motile egg-cells. The placenta common to both animal and plant. Cell-division electrical in character. What is it that enables the newly born child to live independently of the mother? Its circulation and generative power. Is the air a vehicle of energy? Light-frequencies and the question of the energy exerted by them. Instances of adventitious vegetative and sexual reproduction. Theory that life is a product of chemical reaction examined. The researches of Dr. Carrel. Reasons why the theory is untenable. Growth of excised tissues rather a manifestation of electrical energy than of chemical reaction. Argument. Professor Schäfer and his statement that there is not a great difference between dead and living matter criticised. Dr. Waller and dry seeds. *Potential* and not *latent* life. Reasons for opinion. Dissertation upon botany, embryology and physiology. Chaotic state of theories of life and action. Not chemical or electrical, but both. Chemical theory alone fails to explain vital phenomena. Appeal for investigation.