

**DISSOLUTION AND EVOLUTION AND THE
SCIENCE OF MEDICINE: AN ATTEMPT TO
CO-ORDINATE THE NECESSARY FACTS
OF PATHOLOGY AND TO ESTABLISH THE
FIRST PRINCIPLES OF TREATMENT**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649131976

Dissolution and evolution and the science of medicine: an attempt to co-ordinate the necessary facts of pathology and to establish the first principles of treatment by C. Pitfield Mitchell

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Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

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PRINCIPLES OF TREATMENT.

Sanitarium
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CHICAGO, ILL.

LONDON:
LONGMANS, GREEN, AND CO.
AND NEW YORK: 15 EAST 16th STREET.
1888.

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144607

Entered according to Act of Congress, in the year 1884,
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PREFACE.

By the following pages it is proposed to disseminate some new applications of Mr. Herbert Spencer's leading generalisations. The sustaining elements of the Synthetic Philosophy are the doctrines of evolution and dissolution. The design is to inquire whether these may not be made fertilising principles for large collections of the data of pathology, and thus the means of practice for the physician and surgeon.

The raw material of medical science grows with an acceleration of rate that gives acuteness to the need of great central truths about which facts may be organised. I venture to think that the doctrines of dissolution and evolution supply, in useful measure, this large and pressing want; and, contrary to all appearances, that they bear, in their present application, upon every aspect of the work of the practitioner. In substantiation thereof this volume is offered, but here the prospect must be unfolded.

A multitude of facts will be seen to acquire a

remarkable concinnity, unity, and order. The unification of truths so voluminous and diverse as those constituting pathology is undoubtedly of educational value. To make all diseases, from a whitlow to mania, one in principle by cause and effect is an aid to practical thought. It vastly augments the carrying capacity of the mind. I am convinced that one of the chief hindrances to our advancement to an organised system of rational procedure in the treatment of disease is the want of a perception of the uniformities that exist amid the diversities of morbid phenomena. The proclivity, handed down to us from pre-scientific times, to regard each disease as individual, is discernible almost everywhere in the scientific medicine of to-day. With primitive man, diseases were personified entities; with ourselves, they are pathological entities. It is surely as desirable for the practical physician as for the philosopher to perceive the continuity and inseparableness of natural processes and their most essential general differences and likenesses. General truths that will break down the factitious divisions which convention has raised are exceedingly helpful instruments in the progress of science and art. I believe that the principles of dissolution and evolution are such general truths.

But it is among the services of great generalisations to exert a purifying influence upon all that comes within the range of their generalising power. If true, they are at variance with what is untrue, and

will lead to the correction of erroneous observation and erroneous inference. An influence of this kind may be seen in the co-ordination of the data of pathology by means of Mr. Spencer's resplendent discoveries. To mention first some of the minor effects of this influence. There is the idea, suggested by the formula of dissolution, of inflammation as a process of disintegration throughout the series of its essential component phenomena. In truthfulness, comprehensiveness, and simplicity, the conception approaches perfection, and immediately clarifies all previous notions of the pathology of inflammation.

There are the so-called interstitial inflammations known as 'fibroses,' 'cirrhoses,' and 'scleroses.' Dissolution and evolution at once hint that the increase of connective tissue in these morbid changes is the result of a process the opposite of inflammatory, the result of a reparative process—the connective-tissue growth is a scar. When the changes are further examined by the light of this suggestion, and by further light from the general principles, it is found that every consideration consists with the view. That it will ultimately become the prevailing view I have not the least doubt, and its acceptance at the present juncture would modify momentarily our ways of looking at the chief organic pathological processes.

I will not particularise the new aspects in which the principles present the phenomena of regressive

metamorphosis, of tumour-formation, of the organic diseases, of functional diseases, and of insanity ; but will observe that each of these aspects should assist in shaping the actions of the practitioner. Only among leading physicians is it appreciated that a knowledge of the intimate changes of diseases, and our manner of viewing them, are more than practice. They are its very mainsprings, and, still more, have the governance or direction of it ; not only do they supply the motive power, but they make practice good or bad. Let us suppose that the case for which advice is sought is one of croup, where laryngeal obstruction threatens to induce death. One skilled in practice but imperfectly acquainted with the recondite and interdependent chemical and physical tissue-changes which are the essence of the disease, will advise and perform tracheotomy, or intubation of the larynx ; or pin himself to medication, poultices, and steam inhalations. But such a one will be heedless of the remote causes of the asphyxia. The urine may be examined and albumen discovered, but beyond adding to the gravity of the case, the albuminuria will not have much significance ; it will not serve as a clue to the antecedents of the laryngeal obstruction. These are not known, they will not be thought of, and no steps will be taken to deal with them either by removing the conditions upon which they depend, or by furthering the natural processes of functional adjustment. The case will probably terminate fatally

by extension of the disease to the bronchi, by septicaemia, or nephritis. Hence, in a medical journal of to-day we read that of fifty cases of croup treated by the new method, 'intubation of the larynx,' death resulted in thirty-eight. In the cases of the twelve patients that survived, it is not certain that intubation was the only factor concerned in the recoveries.¹

There are results of pre-eminent importance issuing from the application of dissolution and evolution to pathology. I refer to the proposition that diseases are the outcome of interactions between the organism and its environment. This is not an unfamiliar proposition. Ziegler says: 'A true disease is not a consequence of the indwelling and inherited properties of the cell. The efficient causes of a disease are always external. In the observations we made on the *amœba*, it was heat or cold, an altered surrounding medium, or the galvanic current, which brought about disease and death. All these noxious influences are derived from without; and what we have here remarked in a single instance experience shows us to be universal. Autonomous as the cell may seem, it is yet unable, without external impulsion, to heighten its functions above the physiological standard, or, on the other hand, to check or to suppress them. We can, therefore, give a still more exact definition of the notion

¹ I shall not be understood to inveigh against tracheotomy, intubation of the larynx, or inhalations as measures of expediency.