

mena, then, of animal matter naturally leads us to search for physical cause, which we find in the physiology of matter. But this is not sufficient. we must also find the etiology, which renders animal tissues physiologically normal or abnormal, as the case may be; until we have accomplished this wished-for end, we cannot claim that the practice of medicine is based upon truly scientific principles. Unfortunately the science of etiology has not kept pace with physiology; yet within the last quarter of a century histologists have done wonders in their field of labor. To them we are indebted for all the knowledge we possess of etiology, whether of the vegetable or animal organisms. To the histologist are we indebted for the knowledge of what a parasitic world is this world of ours, that it is a truth, that:

"Great fleas have little fleas and other fleas to bite them,
And little fleas have other fleas, and so on ad infinitum."

We owe to the histologist the knowledge that the beginning of animal and vegetable life is the beginning of what we call death; that all that lives is like the "gourd of Jonah," having a worm at its root,—so that death or physical change is natural to all organisms; decay is matter, not in an abnormal, but normal, state. But death of organisms from disease is unnatural, and mankind seems to have recognised that fact since we have had a history of man, and felt it to be the greatest of all evils.

If we have found the pathology of vegetable and animal organisms explained by the germ theory—and to me it appears we have—for this knowledge we are indebted to the labors of the histologist. We may not have found it however, therefore we should follow the advice of Mr. Huxley, and avoid speaking "cock-surely" of all such questions. But if there is any new theory in the present day that seems to have taken firm hold of the conviction of medical men it has been the germ theory.

Strange that nearly every scientific truth should have its origin amongst those not learned in book-lore. Long before Mr. Tyndall commenced his investigations of atmospheric air, the peasants of Ireland had some undefined idea of an *atmospheric materies morbi*, evident from the fact that in times of epidemics, they used to make large bonfires to arrest the progress of the epidemic. And I find that our respected and learned friend, Dr. Workman, in his reminiscences of the cholera in Montreal, in 1832, states that cannons were

fired in all the streets (to the great benefit of the glaziers) and tar barrels were burned. Now, although we do not find any benefit to have arisen from these acts, they are a proof that, in the minds of the actors, there was, as I have said, some undefined idea of an *atmospheric materies morbi*—a germ which only required the genius of a Tyndall or a Pasteur to interpret, and nobly have these men done their work.

For the knowledge we have of the etiology of disease we are indebted to the labors of the histologist, and those diseases we do not know the etiology of—for the sake of our patients—the sooner we know it the better; but to attain to this knowledge it is actually necessary that we should be convinced of the fact that, for every phenomena we observe in nature there must be physical cause,—more particularly must we recognize this great truth when treating of the animal economy, as we find it in man, remembering that conduct, whatever it may be, is only a symptom or phenomena, having a physical cause, although our histologists may not yet be able to show us physiological or etiological cause for effect. You may say to me: suppose we know the physiology of all matter and the pathology and etiology of all diseases, what then; would we be the better able to cure disease or find a remedy for the removal of these diseases? Well, whatever chance we may have when we come to obtain this knowledge, we can do but very little without it. When that time comes, however, I believe the pharmacologist will find the remedy for the disease. I agree with that eminent physicist, Mr. Huxley, when he says: "It will, in short, become possible to introduce into the economy a molecular mechanism which, like a very cunningly-contrived torpedo, shall find its way to some particular group of living elements, and cause an explosion among them, leaving the rest untouched." No wonder that such a man would come to such a conclusion when he so ably and truly describes man,—his words are: "the body is a machine of the nature of an army, each cell is a soldier, an organ a brigade, the central nervous system head-quarters and field telegraph, the alimentary and circulating system the commissariat."

A few words on my own specialty, mania or pathological psychology, for it is pathological psychology, although we are not yet able to show, in the majority of cases, what