inexorable discipline of death to those who do not rise to her standard—survival and parentage for those alone who do—has been from the earliest times more and more definitely resisted by the will of Man;” and this authority goes on to refer to man’s “rebellion against natural selection” and, again, to his emancipation from “the destructive methods of natural selection.”

Is it not remarkable that two such eminent biologists should be so anxious to rebel against natural selection and to repudiate its aid? Is it not strange that they should wish to disown the golden ladder by which man has mounted from the beast and without which he must lose all hope of further ascent? For if there is one fact which stands out more prominently than another in connexion with organic evolution it is (whatever the mutationists may say to the contrary) that natural selection is indispensable to that evolution.

Fortunately there are no grounds for assuming that natural selection is ceasing to operate on man. In point of fact it is essential to the continuance of species, for without its operation it would be impossible for these to become adapted to those never-ending changes in environment which are inevitable in this world of mutation. Certain it is that without natural selection man could not have attained his present civilisation. The conditions of civilisation have for thousands of years been entailing changes in his environment, changes both material and psychic, and during all these years man has been undergoing adaptation to these changes under the beneficent sway of natural selection. This conclusion follows from the non-inheritability of acquired characters.

The important part played by natural selection in the case of man was worked out by me 20 years ago in my work on “The Causation of Disease,” which was, I believe, the first systematic attempt to bring pathology into line with Darwinism. It is often wrongfully assumed that injurious conditions necessarily lead to racial degeneration, whereas, as a matter of fact, their effect is rather to start a process of adaptive evolution. In the work referred to I pointed out that whenever a community is subjected to a noxious but not “necessarily fatal” influence (i.e., one which does not inevitably lead to total destruction) the process of *racial*—I use the word as opposed to *individual*—adaptation is at once started, and I emphasised the fact that all deaths from non-traumatic causes occurring before the end of reproductive life are instances of natural selection. This being so, we have only to reckon up the number of such deaths in any community in order to estimate the extent to which that community is being influenced by natural selection.

I have said that civilisation has brought with it many conditions which did not obtain in the case of man’s primitive ancestors. These include conditions which we term unhygienic. It has to be remembered, however, that for Nature they are simply modifications in the environment, and she at once sets to work to secure a racial adaptation to them by natural selection, with the result that what was unhealthy yesterday may be healthy to-day. This important truth seems to have escaped the biologists, all too heedless of the teachings of pathology. Consider the enormous mortality of slum-bred children. What is this but natural selection working in tragic earnest? What is it but an effort of nature to evolve a slum race—a race that is adapted to the special dietetic and atmospheric conditions of the slums? And who can doubt that far from leading to racial degeneration its effect is rather to widen the range of man’s resistance to environmental influences?

Just because man is not undergoing any obtrusive change in physical conformation it is assumed that he has come to a standstill. The fact is forgotten that a hidden invisible change may be quite as important as a gross organic one. Biologically speaking, the acquisition of subtle invisible mechanisms to cope with an invisible microscopic host is every whit as important as the development of horns or tusks to fight against a visible enemy.

Had I the time and space I might add many instances to the one I have given of the operation of natural selection on civilised man. I might instance the fact that every death from alcoholism is the elimination of one who is unfit as regards alcohol, and the further fact that drunkenness, far from injuring our race, is really purging it of undesirables. I might further show that this same influence is still subtly

at work on the psychic side of man. I must, however, rest content with having emphasised the truth that man’s destiny on earth is intimately bound up with the inexorable operation of natural selection—that process at once cruel, merciful, tragic, sublime.

I am, Sir, yours faithfully,

Wimpole-street, Nov. 7th, 1909.

HARRY CAMPBELL.

THE TREATMENT OF CHRONIC ULCER OF THE LEG.

To the Editor of THE LANCET.

SIR,—The views of Mr. Willmott Evans as to the frequency of a gummatous origin for these ulcers will doubtless be fully discussed by surgeons. My attention is confined to his remarks on the dry treatment of the ordinary ulcer. The absence of any reference to the “open” or “atmospheric” method would seem to imply that this plan does not occupy any prominent place in surgical teaching and practice. A few years ago, whilst studying the effects of the method of “Interrupted Circulation” in its application to chronic ulcers, I repeatedly noticed that after a period of most satisfactory and comparatively rapid progress the treatment lost some of its efficacy. It occurred to me to try the effect of keeping the ulcer continuously exposed to the air without any dressing. A single layer of gauze was spread over it as a protection, but without any contact with the granulations, whilst the remainder of the limb was kept under cover. The result was striking. The final closure of the small ulcer which had refused to heal was brought about within 24 hours. This method may probably have been applied before, though it was novel to myself. It is perhaps worthy of a more extensive trial by others.

I am, Sir, yours faithfully,

Upper Brook-street, W., Nov. 15th, 1909.

WM. EWART.

To the Editor of THE LANCET.

SIR,—Mr. Willmott Evans, in his article in THE LANCET of Nov. 13th on the Treatment of Chronic Ulcer of the Leg, gives his opinion that more than 90 per cent. of these cases are syphilitic in origin. Later on he remarks that the most important point in diagnosing chronic syphilitic ulcers of the leg is multiplicity. I agree with him that over 90 per cent. of multiple chronic ulcers of the leg are syphilitic, but I think it will be agreed that the majority of chronic ulcers of the leg are single, not multiple. Does Mr. Willmott Evans hold that 90 per cent. of *single* chronic ulcers of the leg are syphilitic? If so, I think he is considerably exaggerating the percentage.

I am, Sir, yours faithfully,

Euston-road, N.W., Nov. 15th, 1909.

C. F. MARSHALL.

THE INFLUENCE OF DIET ON THE THYROID GLAND.

To the Editor of THE LANCET.

SIR,—I welcome the opportunity afforded me by Dr. Ernest Young’s interesting letter in your issue of Nov. 13th of further referring to a point of some interest and importance in relation to diet and the thyroid gland. The salient feature in Dr. Young’s letter is in the following passage: “While admitting without question that a diet which contains little protein may produce favourable results, I must confess to some scepticism as to the result being due to the influence of the diet on the thyroid gland. If this were so, then a diet consisting entirely, or almost entirely, of protein would, if I understand Dr. Watson rightly, have a converse effect upon the gland and so aggravate the condition, which is not so,” and he invites me to explain the paradox. May I in the first place point out that Dr. Young has not rightly understood my position. This is no fault of his, however, but is due to the restriction of my original letter. The apparent paradox referred to by Dr. Young had not escaped my observation. On the contrary, for some years past I have made a special study of many cases of gouty disorders under my own care, in which I found it advisable to modify the diet in the direction of diminishing the carbohydrates and increasing the protein elements in the food. Dr. Young puts forward as an explanation of why a diet