

ated during the last fourteen years has been chiefly derived from the importation of capital to build the C. P. R. and other public works, the importation of capital by the increase in our loans on real estate, etc., to meet the interest, all of which the industry of the country has to pay for. Increase our trade with the outside world, and the general prosperity of the country will be increased, and out of that wealth the revenue will be largely increased. Our liabilities for revenue compared with the United Kingdom, the United States, Germany, France, etc., are very small, and the fear that revenue will not be forthcoming under a more prosperous condition of the producing class is foundless. We have a most excellent example of revenue under the policy of protection and free trade in Australia. Victoria has protection and New South Wales has free trade, adjacent to one another; they are the same area, the same population, the same resources, yet the revenue of New South Wales is \$5 per head more than it is in Victoria, and her exports are greater. It is really more a question of how the revenue is to be raised. At present while raising the revenue we raise prices as well, so that a double tax is levied. If the revenue was adjusted so that only a single tax was imposed, the people would with greater ease pay the revenue. A five per cent. tariff on the necessities of our industrial life with a readjustment on luxuries would create a marked effect on our revenue by the increase of our population, and it would in all probability lead to complete free trade in the future. The principle of free trade on British lines is sound, and if the principle is sound we should not fear to adopt it, and to aim for that goal is the most statesmanlike policy the Canadian people can adopt in the light of experience. Our uniting with Great Britain under a free-trade policy would be a commercial change fraught with great possibilities in the future, and there are many evidences that the Canadian people are ripe for such a change. Mr. Lawder will recognize that there can be no "cant about cheap living," etc., when the practical evidences of the effect of our tariff, as published in our decennial stock-taking, are advanced. My argument is that not only on the imported cotton do we pay twenty-four per cent. of a tax, but on the raw material which is imported free we also pay twenty-four per cent. of a tax in the price of the manufactured article, and so with coal oil, and so with iron, and so on through the whole list. And this double tax bears upon the industry of the people, restricting production, restricting population, restricting trade and generally increasing the cost of living to the population of Canada.

C. A. BOULTON.

A COMMENT.

To the Editor of THE WEEK:

SIR,—“Fidelis” poem on Whittier in THE WEEK of 7th inst. is very beautiful—the best thing I have seen on the subject. I don’t in general care for poems about poets, and prefer prose for critiques, but here is an exception. Your contributor, Mr. J. A. T. Lloyd’s article on Mr. Carman’s poem is very clever, and his examples of sound suiting the sense are good. But perhaps Pope’s

When Ajax strives some rock’s vast weight to throw,
The line, too, labours, and the words move slow,

is about the best. It is difficult to read it distinctly without a feeling of labour and strain. But the next lines, though good too, are not quite so good:—

Not so when swift Camilla scours the plains,
Flies o’er the unbending corn or skims along the main.

Imitating Virgil’s

Illa vel intacte segetis per summa volaret
Gramina, nec teneras, cursu læsisset aristas;
Vel mare per medium, fluctu suspensa tumentis
Ferret iter, celeres nec tingeret æquore plantas.

But perhaps as good an example as any may be found in the first lines of the pretty little nursery song, which may have been the prototype of Mr. Carman’s—

See-saw,—Margery Daw
Sold her bed and lay upon straw.

How charmingly that first line expresses laziness and the second its moral consequence.

If you think Mr. C. and his critic are too wise to be offended at my commentary, you may insert this as a sequel to your late article. W.

DARWIN, AND AFTER DARWIN.*

THIS volume is the first instalment of a work which is to include not only an exposition of Darwin’s views but also a history of biology, and a discussion of the place which this science has reached since Darwin’s death. The volume dealing with the historical phase of the subject is to stand over for an indefinite time. The volume, whose sub-title is to be “Post-Darwinian Questions,” is to appear before the close of 1892. Mr. Romanes gives appetizing hints of the contents of that part of his work. The present volume, “The Darwinian Theory,” is issued first because it deals with problems of the most general interest. Indeed the author is careful to say at the outset, and to repeat, that the work is not at all a science text-book. It

* “Darwin, and After Darwin,” by George John Romanes, M.A., LL.D., F.R.S. I. The Darwinian Theory; pp. xiv. and 460. Chicago: The Open Court Publishing Company. 1892.

is expected, he writes, to be of more service to ordinary readers than to professed naturalists; and having this aim in view he “avoids assuming even the most elementary knowledge of natural science on the part of those to whom the exposition is addressed.” It is from the standpoint of the general reader that I wish to give an outline of the purely scientific portion of the book. Of the pages devoted to an interpretation of the fact of evolution, and of the sentence or two in which the author describes the nature of speculation, I shall venture to offer a brief criticism.

It must be said that Mr. Romanes is to be congratulated on succeeding so completely in his aim. The general student, if he brings to the book a mind free from prejudice, will be captivated by the clear and racy way in which the author presents the case. The volume, too, is adorned by one hundred and twenty-five drawings, many of them original, which help the reader to grasp the force of the argument; while the publishers have vied with the author in making the work in every way attractive.

For the purpose of simplifying the question, Mr. Romanes draws a distinction between the fact of evolution and the manner of it. In the first part he treats of the fact of evolution under the following heads, each of which forms the subject of a chapter: classification, morphology, embryology, palæontology and geographical distribution. His aim is to unfold the various lines of evidence which go to establish the fact of evolution as opposed to the separate creation of species; and the wealth of scientific fact which he furnishes seems to be overwhelmingly conclusive.

It is hardly possible even to suggest the way in which Mr. Romanes treats the five lines of argument, but a sentence or two must be given to each of them. (a) The history of classification records the gradual abandonment of mere grouping of individuals and species in favour of some kind of genealogical tree. This fact makes for evolution, as species if independently created might stand in associated groups but not in any line of descent. (b) The study of morphology has shown that real resemblances of structure may underlie great differences of form and use. The flipper of the whale, e.g., is constructed in the same way as the fore-limb of a terrestrial animal. Evolution explains this by the theory that the flipper is really the modified fore-limb of an animal which formerly lived on land. No such simple solution is provided by any other doctrine. (c) The interesting chapter on embryology contains a large amount of new matter. Older zoologists were satisfied to believe that there were several kinds of reproduction. The latest discoveries prove that in the simplest many-celled organism the process of reproduction is sexual; and there seems to be reason for hoping that in the one-celled organisms a sexual process will soon be found. When the argument is complete, it will show that the reproductive process is continuous in kind from the dawn of life; and this prospective fact will tell heavily in favour of evolution and against all competing theories. An additional buttress to the evolution hypothesis is the fact that an animal in its life-history passes through many of the phases through which its reputed ancestors lived in the order of their development. This fact is vividly embodied in a striking series of drawings. (d) The evidence furnished by “the testimony of the rocks” establishes, firstly, that there is a steady increase in the diversity of types, and, secondly, that there has been a gradual advance towards higher types. Any other order would throw suspicion upon the view that species are evolved, while the theory of the independent creation of species cannot be strengthened by the discovery of any particular order. (e) Finally the facts of geographical distribution prove that living beings found on any two areas differ from one another in proportion to the difficulty of communication between the areas. Mr. Romanes gives a number of interesting examples with regard to the Galapagos Islands, the Sandwich Islands, St. Helena, and other places. If difficulty of communication implied a great contrast of climate and other natural conditions the theory of evolution would not be strengthened by this mass of fact; the divergence of species might then be traced to these conditions, and not to impediments in the way of intercourse. But these two areas, though similar in climate, temperature and physical features, yet present in the continuity of species gaps large or small in proportion to the greater or less efficiency of the land or water barricade between them. This fact is another support to the doctrine of evolution.

In the second and smaller part of the work Mr. Romanes deals with the methods of evolution under the headings “The Theory of Natural Selection,” “Evidences of the Theory of Natural Selection,” “Criticisms of the Theory of Natural Selection,” “The Theory of Sexual Selection and Concluding Remarks.” This smaller half of the volume has the same merit as the first; when dealing with the facts the author is above reproach, even when they seem to him to be adverse to the theory in which he believes. But he is impatient with critics who object to the theory on the ground of the phrase Natural Selection; and here the reader’s sympathies are divided. While it is true that a view, which declines to investigate the facts and turns aside into logical subtleties, sounds its own death-knell, it is also true that an imperfect conception can be disposed of only by treating the case more generously. The single fault, to me, of Mr. Romanes’ work is, that he does not insist upon this larger view. I shall try to substantiate this criticism by a quotation.

Mr. Syme in his work on the “Modification of Organisms” raises the point, says Mr. Romanes, that if the fittest alone survive “we ought never to find inferior forms in company with superior, since in the struggle for existence the latter should have exterminated the former.” According to Mr. Syme himself “in every locality there would be only one species, and that the most highly organized; and thus a few superior races would partition the earth amongst them to the entire exclusion of the innumerable varieties, species, genera and orders, which now inhabit it.” To this objection Mr. Romanes replies by saying: “Of course to this statement it would be sufficient to enquire, on what would these few supremely organized species subsist?” Now there is, I think, a two-fold defect in this reply of Mr. Romanes. Firstly, he is caught in the meshes of controversy, because the words of the reply are as available for Mr. Syme as for his critic. If Mr. Syme used them, he would mean that, as the highly developed beings would have nothing to live upon, the theory of the survival of the fittest leads to complete extermination. The only sufficient retort is to reorganize the conception of natural selection. Secondly, Mr. Romanes’ answer seems to rest upon what he himself calls a scientific misconception. He has maintained, and to all appearance correctly, that no lower organism exists for the sake of the higher. Hence the question, On what would these few supremely organized species subsist? is not scientific at all. Mr. Romanes should surely have replied that the fittest individual or species cannot be rightly defined as the destroyer of all others. Then the argument would recur to the main enquiry, what are we to regard as the fittest? But this the most important point Mr. Romanes is too much inclined to set aside.

This, as I believe, capital shortcoming of Mr. Romanes’ work perhaps accounts for his view of man and reason. In summing up he writes: “What mode of being is ultimately concerned in the process of organic evolution or in what it is that this process ultimately consists—is a question upon which science is as voiceless as speculation is vociferous.” Hence the author, resolved not to vociferate, maintains that all laws and theories fail when applied to man. Now it seems plain that if nature selects, man has somehow been selected. It seems true also that, if the fittest survives, man is in some sense fit, if not the fittest. And it seems equally true, that, if the highest comes last, man is so far highest. Moreover as intelligence is, if not a specific feature of man, at least more developed in him than in any other animal, we cannot when speaking of the select of nature, the highest or the fittest, ignore the fact of reason. Hence in a discussion about the meaning of natural selection, it cannot be maintained that “the human species furnishes the worst example that could have been chosen.” If the human species is an exception to a rule, the rule either does not hold at all or is inadequately interpreted. Nor can it be said that “the dominion of natural selection as between different races of mankind is greatly restricted by the presence of rationality.” Since, in the case of man and all intelligent animals, a more or less developed rationality is the main element of their fitness, the dominion of natural selection cannot be restricted by that which gives it its deepest meaning.

A pleasing feature of the view suggested by this criticism of Mr. Romanes is that even the scientist, if he chooses, may speculate without any qualms. The scope of this wider science or philosophy it is not in place here to discuss. But, if reason or intelligence be roughly defined as the progressive-realizing of the highest aim or ideal, a formal definition of the “fittest” would be the individual who most fully presents this ideal in his actual work and character. Religion, art and philosophy are busy with the task of apprehending this ideal and of making it acceptable. When a scientist refuses to co-operate in this task, it is not by reason of any fault in the science. He declines to enter into full possession of his high calling.

Queen’s College, Kingston.

S. W. DYDE.

ART NOTES.

MR. M. MATTHEWS, R.C.A., announces that the whole of the works now in his possession will be offered by auction at the Mart, Toronto, on Wednesday, the 26th inst. Until the 21st inst. the pictures will be on view at Roberts and Son’s gallery of art, 79 King Street West. The catalogue includes over one hundred subjects in water and oil. We sincerely trust that all art lovers and patrons will generously avail themselves of this opportunity of materially encouraging Canadian art and ornamenting their homes with some of the finest productions of this distinguished landscape painter.

PERHAPS the most finished representative of Canada in the world of art, as Paul Peel may well be called, has been cut off from his career at the age of thirty-two at Paris. Two years ago he visited Canada and everyone who had the pleasure of meeting him was struck with the modest and unassuming bearing of the man who had made his mark and had already exhibited the famous *après le Bain* which gained for him alone amongst thousands of competitors the gold medal of the *salon*. Though practically an artist of the French school and a citizen of Paris, Paul Peel was at heart a true Canadian. Death came upon him while engaged upon a canvas intended for the Columbian Exhibition of next year at Chicago. Paul Peel was born in London, Ontario, in 1860. The young