"It seems probable that the Geological Survey of Great Britain and the Geological Surveys of the Colonies and of India, with the British Association and the Geological Societies and geological sections of Societies in all parts of the Empire, would be willing to co-operate in such a movement under the auspices of the Royal Society, and that the Council might usefully invite communications on the subject from public departments and Societies, beginning with those of the mother country and its colonies and dependencies, but looking ultimately to union with those of the United States also.

"In the meantime, I propose to mention the subject to the Council of the British Association, to the English and American Committees of the International Congress of Geologists, and to the Council of the Royal Society of Canada, and shall be glad to have your permission to regard this communication as an open letter to be used in any way likely to promote the object in view."

Copies of the above letter were sent to representative men in every part of the Empire, and a large number of replies have been received, expressing an interest in the proposal and readiness to aid in carrying it out. In so far as Canada is concerned, Lord Lorne, the founder of the Royal Society of Canada, and his successor as Patron of that Society, Lord Lansdowne, have signified their hearty concurrence, and the Council of the Society appointed a Committee on the subject, consisting of Dr. Selwyn, F.R.S., Rev. Prof. Laflamme, and the writer, whose report was adopted at the recent meeting of the Society in Ottawa. The following are the conclusions and recommendations of this report:—

"(1) That the objects referred to seem of the greatest importance to the advancement of geological science, and deserve the consideration of this Society, and more especially of its Geological Section.

"(2) That the present year, when all the subjects of the British Empire are united in a common desire to celebrate the fiftieth year of the reign of Her Most Gracious Majesty, when the public mind is impressed with the recent gathering of the resources of the Empire in the Colonial and Indian Exhibition, when plans for Imperial Federation are before the public, and when a Conference of delegates from the colonies, for the purpose of promoting a more intimate connexion, is being held in London, appears eminently favourable to the realization of the idea of an Imperial Geological Union.

"(3) It would appear that the first steps towards such union should be taken by scientific bodies in London, and that the Royal Society of London should be requested to begin the movement by inviting in the first instance to a Conference, representatives of the Geological Survey of Great Britain and of the various Societies and Associations in Great Britain and Ireland prosecuting geological work, with representatives from similar bodies in the colonies. Such Conference might define the objects to be attained, might prepare a constitution and arrange for subsequent meetings and for reports to be sent in on important questions.

"(4) It appears to your Committee that when thus organized, the work of the 'Imperial Geological Union' might be carried on by local and general conferences and conventions; by regular reports from local branches for publication annually by the Officers or Council of the Union; by correspondence and conference with geological bodies abroad, and possibly by other methods which would develop themselves.

"(5) In so far as Canada is concerned, this work might be aided by the Geological Survey of the Dominion, by this Society and the Societies affiliated with it, and possibly also by the Universities.

"(6) The Director of the Geological Survey of the

Dominion has intimated his willingness to co-operate in sending representatives of the Survey to any conference or convention, and also by furnishing information as to the work and methods of the Survey.

"(7) It appears to your Committee that this Society might co-operate by empowering the Council to continue its Committee and to select delegates to represent the Society in the event of a preliminary conference being called in London, and by inviting all the affiliated Societies which prosecute geological work in the Dominion to take similar action.

"Your Committee would therefore recommend that this report, with the letter appended, be printed and circulated to the different local Societies connected with this Society, and to such other bodies as may be interested in the matter, and that their aid and countenance be solicited in carrying out the scheme, and that the Society empower the Council, or a committee appointed for the purpose, to represent the views of the Society by correspondence, or by attending any conference on the subject which may be summoned. It will, however, be understood that no expense shall be incurred without consent of the Council of the Society.

"It appears to your Committee that while the usual language of the Union would necessarily be English, communications should be received in any language used within the Empire, and that in this Dominion the English and French languages would be recognized as in this Society."

It will be seen that we hope the initiative will be taken by the Royal Society, and the present communication is intended to aid in securing that general co-operation throughout the Empire which is essential to success. With the same object I have asked the Council of the British Association to throw its influence on the side of union; and propose, in resigning the office with which the Association has honoured me, to make it a personal request that this great Society, which, by its meeting in Canada and its proposed meeting in Australia, has assumed an Imperial character, will take a leading part in the promotion of Imperial union both in reference to geology and to other sciences.

I need scarcely add that the project is not intended to interfere with the operations of the International Congress of Geologists, which is to meet in London in 1888; but it would appear eminently desirable that the contemplated Imperial Geological Union should be organized before that meeting, so as to enable British geology to present a united front, and to assume the importance to which it is entitled.

J. WM. DAWSON.

SOCIAL HISTORY OF THE RACES OF MANKIND.

Social History of the Races of Mankind. Second Division: "Papua and Malayo Melanesians." By A. Featherman. (London: Trübner, 1887.)

MR. FEATHERMAN does not improve. Those who have read the severe criticisms evoked by previous volumes, and still more those who have read the volumes themselves, will understand how much is implied in these few words, which could be justified only by a stern sense of duty, and regard for the interests of scientific truth. But, as the huge work grows under his hands, it becomes more and more evident that he has undertaken a task entirely beyond his strength. The present volume brings especially into painful evidence the

inherent defects of his method, his inadequate grasp of the subject-matter, and his many shortcomings betrayed at every step in the treatment of details.

And first as to the method. A "social history of the races of mankind," which, as he is careful to tell us, eschews both anthropology and ethnology "in the technical sense of these words," necessarily resolves itself into a history of social progress, such as, for instance, is presented in Mr. E. B. Tylor's "Primitive Culture," or his "Researches into the Early History of Mankind." But Mr. Featherman's work is in no sense a "history," that is, a systematic and orderly treatise on the various phases through which mankind has passed, or is passing, in its upward development from the crude beginnings to the highest aspects of human culture. Any such broad and philosophic exposition of the subject is at once excluded by his method, which consists of a disconnected and more or less accurate account of the habits and customs, social usages, language, religion, and tribal or national organization of the various races and their subdivisions, classified according to a system peculiar to the author. Here we have an interminable series of minute ethnographic pictures, involving endless repetitions, without unity, without point, without those comprehensive generalizations which are essential to give coherence to the whole, and which would flow of themselves from a systematic treatment. These *dissecta membra* may to some extent supply the raw material, but they never can "be considered as a manual of sociology," as is claimed for them by the author.

But owing largely to his inadequate grasp of the subject-matter, this raw material itself is often of a highly unsatisfactory nature, and is so arranged as to be almost worthless to the ordinary student, or in fact to any except those few anthropologists who have the leisure and knowledge needed to re-arrange it for themselves. When Mr. Featherman passed from the "Nigritians" (African Negroes) of the first to the "Melanesians" of this second division, he was at once confronted by one of the most tremendous difficulties in the whole range of anthropology; but of that difficulty, turning upon some rational or at least working classification of the Oceanic peoples, he seems to be absolutely unconscious. Hence in his grouping of these peoples he has fallen into an abyss out of which there is no redemption. It is all very well for him to protest that "it is not the object of this work to discuss contested ethnological questions"; but he himself feels the necessity of some kind of grouping, in establishing which he is fain to discuss some very abstruse questions touching the origin of mankind, the nature of species, the value of language as a racial test, and the like. In general he professes to base his classifications "principally upon physical characteristics and language" ("Nigritians," p. xv.), and this leads him to a classification in the present volume, which confounds the yellow and dark races, which identifies the Malays with the Papuans, which ignores the presence not only of the fair Indonesians, but of the pygmy Negritoes in the Eastern Archipelago, and which, as shown on the very title-page, recognizes in that region, and in fact in the whole of Australasia, eastwards to Fiji, one stock only—the "Melanesian." Of this stock there are two groups, the "Papuo-Melanesians," and the "Malayo-Melanesians,"

which is like saying the "Black-Blacks" and the "Yellow-Blacks," the latter comprising the Malay race in its widest sense, the former all the rest—that is, the Melanesians proper of Melanesia, the Papuans of New Guinea and neighbouring islands, the natives of New Britain and New Ireland, the Negritoes of the Philippines, of the Malay Peninsula, and Andaman, the Nicobarese, the Australians and Tasmanians. Certainly the Negritoes are nowhere mentioned by name, being ignored as such; but they are nevertheless described as Papuans or Melanesians under other names, such as Ayetas (in the Philippines), Semangs (in the Malay Peninsula), and Mincopies (in the Andaman Islands). On the last-mentioned he quotes somewhat disparagingly (p. 227) Mr. E. H. Man, to whom we are indebted for the very best memoir on this race. Yet even from him he might have learnt that the Andamanese "are Negritoes, *not* Papuans" (Journal of the Anthropological Institute, August 1882, p. 70), just as from the photographs taken by Mikluho-Maclay, and Dr. A. B. Meyer, whom he does not quote, he might have seen how profoundly the Negritoes of the Malay Peninsula and the Philippines differ from the Melanesians. This term Melanesian, which here receives such a prodigious extension, is nowhere very clearly defined, and from its free application to the yellow Malays, one is tempted to ask whether Mr. Featherman is aware that it is Greek for "black."

Of these Malays, again, it is dogmatically asserted (p. 420) that they "did not originate in Asia," although nearly all anthropologists regard them as true Asiatics, a branch of the Mongolic stock, who migrated southwards to the Archipelago while it possibly still formed part of the mainland. But Mr. Featherman has a curious theory about migrations, denying, in fact, "that either animals or plants ever migrate." Hence, for him, the Malays cannot be a branch of the Mongolic race, which they closely resemble, but must be "an island people," a branch of the Melanesians, whom they do not resemble at all. With the Melanesians they constitute one of his six stock races, which, although "zoologically varieties of the same species," nevertheless originated in six different centres, and are consequently not genetically connected. This inference he doubtless seems to repudiate in the present volume (p. viii.). But it is clearly and unequivocally stated in the passage in the previous volume, which he omits to quote in his reply to the critics who had, as he now says, "erroneously if not purposely" affirmed this of him. The omitted words run thus: "The peculiar physical characteristics and the *habitats* of the existing races tend to show that they sprang from distinct individual pairs, developed under a variety of surrounding conditions in different parts of the world" ("Nigritians," xxii.). In fact, the assumption is that like conditions inevitably produce like results, that "the same causes must necessarily produce the same effects under any given circumstances," hence that "plants and animals must have been produced and evolved not by a single pair, but by an indefinite number of pairs in different parts of the world" (xiv.). It follows that crocodiles, for instance, have not migrated, but have been independently evolved under like surroundings in the Old and New Worlds; and so with the "six" human types, "zoologically varieties of the same species," but nevertheless independently evolved

(from what lower types it is not stated) in different centres. So it is argued that "the Darwinian theory of transformism" is entirely wrong, and is caricatured by being compared to the Australian theory of the evolution of man from the lizard, which Mooramoor enabled to walk erect by striking off its tail (p. 181). "A weighty argument against the sweeping transmutation theory of Mr. Darwin" is elsewhere drawn from the Australian quadrupeds, hardly any of which are found in any other country, and it is triumphantly asked, "Why did they not advance beyond the marsupial type?" (p. 112). Mr. Featherman evidently still thinks that under given conditions the marsupial should "advance" to a higher or placental type, unaware that Marsh has shown that there is no such evolution, but that the marsupial and placental mammals descend in independent lines from a common undifferentiated prototype (*American Journal of Science* for April 1887).

We come, lastly, to Mr. Featherman's many shortcomings in the treatment of details, of which it may be said, without any exaggeration, "*Che formicolan d'errori.*" Blunders and unaccountable inaccuracies in geology, history, geography, zoology, ethnology, seem to accumulate at almost geometrical ratio with each succeeding volume. But, as a previous critic is here said (p. xviii.) to have charged him with making mistakes of this sort without pointing them out, it will be only fair to specify at least a few of the more glaring errors occurring at almost every other page of the present volume. In the very first sentence of page 1, Borneo is connected geologically and biologically with the Australian instead of the Asiatic world, to which Wallace and others have conclusively shown that it undoubtedly belongs. A little further on "Borneo, Sumatra, Java, Celebes, and the smaller islands of the Archipelago," are said to have "formed a continuous peninsular dependence of Papua" (p. 1), with which the three first were certainly, and Celebes most probably, never connected. But this re-grouping of the Eastern Archipelago, and the removal of the Indo-Malayan to the Austro-Malayan region was necessary for the author's peculiar views regarding migrations and the "Melaneseans," so the results of Wallace's labours in this field are quietly shelved. The members of the animal kingdom are shifted about in the same reckless way, and apparently for no purpose at all, unless it be to show the author's incompetency for the work he has undertaken. Thus the hippopotamus is transferred from Africa to Sumatra (p. 286); birds of paradise from New Guinea to the same region (p. 286), and to Borneo (p. 3); the babirusa from Celebes to "the islands nearest to Malacca" (p. 2), and even to New Guinea (p. 9), where it is described as the *Sus papuensis*! the gazelle from Africa and South-Western Asia to the Eastern Archipelago generally (p. 2); the emu from Australia to Java (p. 361); the orang-utan from Borneo to "Malacca" (p. x.); humming-birds from America to the Philippines (p. 469), after which long flight it was at least courageous to deny that "animals ever migrate" (p. ix.). Topography and geography fare no better, for we have Quettah transported from Baluchistan to the Malay Peninsula (p. 13). On the same page the Ayetas are said to be "found more especially on Alabat Island, where they inhabit the coast as well as the mountain regions." Think of "mountain regions" in Sheppey, for instance, at Thames mouth, for that is about

the size of the islet of Alabat, on the east coast of Luzon! And think of this rock being the chief home of the Ayetas, who are scattered over tens of thousands of square miles in the Philippine Archipelago! Is Mr. Featherman poking fun at his readers, when he writes such stuff as this; or is it that he has not the remotest idea of the significance of the terms which he blindly copies from his mostly antiquated authorities? The latter alternative seems forced upon us, when we again read that the islet of Amboyna and the Sulus "are distinguished for their alluvial lands, their navigable rivers, &c." (2). Then the large Solomon Archipelago is reduced to "Solomon's Island" (11), while, by way of compensation, Palawan develops into "the Palaonans" (p. 491). Australia is divided at p. 114, into "five provincial States," which, however, are further on reduced to "four provinces" (p. 181), Queensland being here forgotten. So with the population of Fiji, given correctly at p. 183, and wrongly at p. 187; and of the Philippines, nearly right at p. 470, but entirely wrong (4,290,000) at p. 480; the laborious compiler, with no information of his own, being thus everywhere at the mercy of the authority he happens at the moment to be quoting. A glaring instance is his treatment of the Malay Peninsula and its inhabitants, for which he appears to have seen nothing more recent than Favre's "Wild Tribes" (1852), and an early edition of Wallace, quoting, however, Rosenberg's "Malayische Archipel" (1879), which has nothing at all about the peninsula. The result is ludicrous, the area of this region being given at "about 45,000 square miles" (p. 420), instead of 75,000, and the population at 374,266 instead of 1,200,000. Here, also, "the chief rivers" are said to be "the Lingie, the Malacca, and the Cassang" (p. 419), and the mountains—but without wearying the reader it will suffice to say that the mountains are worse than the rivers. Similar wild statements are made about the Malay language (p. 300) about the population of Java (p. 362), the Javanese language (p. 376), the "Kanaks" of New Caledonia (p. 77), and, to make an end of it, about the Bughis of Celebes, of whom we are gravely informed that their "commercial activity is extremely limited" (p. 447), these Bughis being far and away the most enterprising and commercial people in the whole Eastern Archipelago.

One word in conclusion. If Mr. Featherman sees good to continue this wearisome compilation on the old lines, let him at all events abstain from sneering at specialists like Mr. Man (p. 232, 235), Mr. Taplin (not *Tarplin*, p. 135), Messrs. Fisson and Howitt (p. 141), and others who have done such admirable ethnological work in this Oceanic domain. But above all let him respect the august name of Charles Darwin (pp. 112, 181). A. H. KEANE.

THE FAUNA OF LIVERPOOL BAY.

First Report on the Fauna of Liverpool Bay and the Neighbouring Seas. By Members of the Liverpool Marine Biology Committee, edited by W. A. Herdman, D.Sc., F.R.S., Professor of Natural History in University College, Liverpool. (London: Longmans, Green and Co., 1886.)

IN this volume are published the results of investigations carried on by a Committee of Naturalists belonging to Liverpool and its neighbourhood. The