

arrangement, the cost of the Geological Survey branch of the Department is charged under the head of Civil Government. In consequence of the rapidly increasing development of the North-West, it is thought that we should properly come before Parliament and ask them for a larger sum than has hitherto been voted for the purpose of the survey alone. I think some hon. gentleman opposite asked in what direction the survey was to be made during the year, and I shall lay upon the Table of the House, with all possible speed, a return by which hon. gentlemen may see where the work is to be done. The work proposed to be done during the present year lies in seven different districts: 1. At the Rocky Mountains, starting at the boundary line; 2. On the South Saskatchewan and a little further east; 3. A little to the north of that, and all the western country; 4. The Rainy River district; 5. The Province of Quebec—the Gaspé district and the south bank of the St. Lawrence; 6. New Brunswick; 7. Nova Scotia. I beg to lay on the Table a map showing the progress of the geographical survey. The officers who have charge of the surveys during the coming season are as follows:—Dr. G. M. Dawson, Mr. A. Bowman, and Mr. R. G. McConnell, in British Columbia and the North West; Dr. Bell and Mr. Cochrane, in the Lake of the Woods district and Western Ontario; Mr. Ellis and Mr. Low, in South Eastern Quebec—Schickshock Mountains; Mr. W. Broad and Mr. McInnes, in New Brunswick; Mr. H. Fletcher, Mr. McMillin, Mr. Brunell, and Mr. Faribault, in Nova Scotia.

Mr. CHARLTON. I observe that, out of a total of \$64,553, only \$18,000 was expended for exploration, the salaries of the staff amounting to \$25,627. The most important work of the branch is that of exploration, and the corps seems to be composed much like a company composed of a captain, sergeant, corporal, and two privates. I am glad that the amount for exploration purposes is to be increased.

Mr. CASEY. I am glad the amount of money to be voted for actual field-work is going to be so largely increased. I urged last year, as did other hon. members on this side of the House, that more money should be devoted to exploration work, especially in the North-West. I urged that, although exploration in comparatively well-known parts of Old Canada was useful in a national sense, yet, as the land in most of the districts is now in private hands, explorations were practically an advertisement for the parties who owned the lands and mines; but that the chief energies of the survey should be devoted to exploring and making known to the world the great territory which still belongs to the people of Canada, the North-West. I wish to call the attention of the Minister to still another point, namely, that sufficient attention has scarcely been bestowed to one of the purposes for which this survey was originally instituted. It is called the Geological and Natural History Survey of Canada. Hitherto, insufficient attention has been paid to the subject of natural history. Of course it is exceedingly important to know what is underground, but it is of even more pressing importance, as regards immigration, to know what is on the top of the ground, to know what is grown naturally in every part of our territory. The object of geological exploration is to develop mines and products, such as stone, phosphate, &c.; but as our territory is chiefly agricultural, I think at least half the money and energy of the Department should be devoted to explorations respecting botany and natural history, and it is more important to know what are the fauna and flora than to know what are the minerals. A much wider extent of territory can be explored as regards its natural history than as regards its geology. The latter is a very slow business except in river valleys, but a very large extent of country can be surveyed in a year in

regard to its natural history. We have all read the works of the active explorers of the North-West, and derived such information from the description of the capabilities of the country. When we read, that in the Peace River district such plants grow naturally which we know flourish in Ontario, Quebec, and other Provinces, we can form an idea of the climate and its capability for grain growing. It has been considered that in estimating the grain-growing capacity of a country, it was necessary to take account of the average temperature for the year; but it is now asserted that it is only the temperature during the summer months that has an important bearing in regard to cereals, and I think there is great force in the assertion, and that it is borne out by the fact that in districts of the North-West where the temperature falls to 50 or 60 degrees below zero in winter, cereal plants flourish naturally which flourish here. The inference is strong that if such be the case, cereals, to which we attach so much importance, will also grow. The fauna of the country is also deserving of more attention than it has received. The animal life of new districts should be carefully observed with a view to stock raising in the future. It is reasonable to suppose that when the buffalo and mustang obtain sufficient pasture during the summer, domestic cattle would do so, and the habitat should be carefully studied. I think, hitherto, on account of the great genius of Sir William Logan, who was an eminent geologist, and put so much genius and energy into the work, the second object of the survey, which should not be second in importance, has been too much neglected, and it is time the Department should devote more energy and more money to the study of natural history. In this connection I may mention that I have seen a discussion taking place in the papers with respect to a valuable collection of plants and birds said to be in existence in this country, in the possession of Professor Macoun, and which it is proposed to purchase for the Geological and Natural History Museum. I am sorry to notice from some letters which have appeared in the newspapers that there is some danger of this splendid collection going to the United States, as he has received offers from that quarter. It is stated that this collection contains 10,000 specimens of the birds and plants of the North-West; and we all know what opportunities the Professor has had for studying these matters and collecting such specimens; how far and wide he explored the North-West Territories, and what a collection he had the opportunity of bringing together. If any proof of the value of his services in this connection were required, it might be found in the fact that the collection of 2,500 plants which he sent to the Paris Exhibition in 1878, and were afterwards presented by the Government to the museum at Kew, is said, by Mr. Joseph Hooker, to be the most valuable individual collection of specimens that ever came into that museum. If so, I think it follows that his collection of 10,000 specimens must be something of surpassing value, which should not be allowed to go out of this country at the expense of the paltry consideration of a few hundred dollars, or \$2,000 for that matter. Even if it were not of surpassing value, the fact stares us in the face that if it goes out of the country it will almost be impossible to replace it. Certainly to do so we would have to send another explorer of equal ability, having equal opportunities, to make such a large collection. I would strongly urge on the Department the desirability of finding out what Prof. Macoun will take for his collection, which, I believe, is not large. We know that such collections obtain high prices in the States, and I would like to know whether any negotiations, respecting this collection, are on foot. As to maps of the North-West, I do not want to be too critical, especially as to the labors of a scientific department; but it does seem to me that maps published by the Geological Department, regarding the North-West,