

tion would be advantageous. Such questions ought to be chemically investigated by the Geological Survey, and these investigations should be done, therefore, by somebody having a knowledge of the physical geology of the regions to be studied. In that way, I think the Geological Survey could render important services to the agricultural interests of the country, and doing a work for which it is much better fitted than any special Agricultural Bureau that could be organized for the purpose. At the same time, the functions of such an Agricultural Bureau are very important in relation to the chemistry of fertilizers and their adaptation to special crops and to the questions of economic botany regarding forests and cultivating plants, and these should, in my opinion, be separate from a Geological Survey, and could, with advantage be transferred to an Agricultural Bureau, which, in my opinion, could best take up the work of practical natural history, which is now supposed to be included in the work of a Geological Survey, especially the very valuable work which Prof. Macoun is now doing, and which is of much importance to the forestry and agriculture of the country, and which might properly belong to an Agricultural Bureau rather than to the Geological Survey.

*By Mr. Ferguson :*

Q. You would separate the analysis of the fertilizers from that of the soils? You would attach one to the Agricultural Bureau while the other would be attached to the Geological Survey? Would it not be in the interest of the country, from a financial standpoint, that both of these should be under one Department?—It would require a special chemist, perhaps, to look after that. A man who undertakes a systematic investigation of the soils of the country cannot, without loss of time, be called aside to make an assay of fertilizers, because the analyses require the different methods, and there should be no interruption of the regular course of investigation.

Q. Still, could not other officers be attached to this part of the Survey, so as to save expense?—It could be done, but yet I would say that in the organization of the Geological Department there are other chemical questions which come up, in regard to milk, butter, cheese, the examination of the disease of live stock, &c., and there would have to be a sort of laboratory to work in, which could scarcely be connected with the Geological Survey. The examination of mineral fertilizers ought to belong to the Geological Survey, except when it comes to the question of commercial analysis, which must be the work of local analysts. For instance, the commercial articles imported by way of Halifax, Montreal, &c., should be examined by local analyses, who should have control of that work, but so far as the general question of mineral fertilizers, which are likely to be important to agriculture, and the analyses of soils and waters, that might fairly be done by the Geological Survey.

Q. For instance, a man might exhibit a specimen of a fertilizer which might be approved of, but when he came to manufacture it, it might be a much inferior article. The question of producing a fraudulent article thereafter would have to come under the criminal law and be summarily dealt with, I suppose?—You could not expect the Geological Survey to do that.

*By the Chairman :*

Q. Since your examination before the Committee you have devoted some time to an examination of the maps which were produced here by the Director, notably those in connection with the Eastern Townships. Would you give the Committee the benefit of your investigation?—I would say, with regard to the map of south-eastern Quebec, of which divers copies are distributed here, that the geology of this region, as it had been worked out in the previous twenty years by all the members of the Geological Survey, up to 1866, was delineated on the great geological map published by Sir William Logan in 1866. He then set to work to prepare for the publication of a map, on a larger scale, of this same region, which includes the Eastern Townships, and this was prepared in the office of the Geological Survey, and was engraven by Stanford, of London. A copy of this map, upon which Sir William had placed the geology of the Townships, copied from the map of 1866, was placed by me in the Paris Exposition in the spring of 1867. Subsequently, upon this map was made the basis of some further minor changes in that region by Sir William, but it