THE CONSOLIDATION OF THE GOVERNMENT SCIENTIFIC WORK.

Our readers are already aware that the congressional committee appointed to consider the organization of the surveys and other scientific work of the government made no report at the last session of congress. The commission was, however, continued as a commission of the succeeding congress. The expired places of Messrs. Pendleton and Lyman were filled by new appointments from the members elected to the next congress. A meeting of the reorganized body has been held, which adjourned until next November without coming to any definite conclusion respecting the measures to be finally proposed. Before adjourning, Major Powell was authorized to make public the testimony which he had laid before them on different occasions, and which covers most of the points to be acted on by the commission.

Major Powell's statements naturally include a very detailed account of the methods, work, organization, and expenses of the survey over which he presides. He also submitted his views upon the best method of consolidating the geological and coast surveys with the other scientific bureaus of the government. This is the really important question before the commission, since upon its decision must turn the general efficiency of the government scientific service for a long time to come. The necessity for some such consolidation is strongly felt in congress as well as outside of it. The one danger to be avoided is that of some hasty plan being adopted, which may suit the exigencies of the moment, but may not work well after those exigencies have passed.

One very strong reason for placing the scientific bureaus under one head, or in one department, is that scientific work has many features peculiar to itself, which require it to be conducted upon principles different in some respects from those which prevail in other departments. The head of an ordinary bureau or department of the government, and indeed every man in public life, is conversant only with offices and duties which there is no serious difficulty in satisfactorily filling, with the aid of that knowledge of men and of the world which he acquires through his daily intercourse with others. Such a person is accustomed to finding scores of candidates for every office, from whom a suitable selection is always possible. The idea of an office for which there may be no applicants, or, if there are any, for which it is morally certain that the applicants are all unfitted, no matter how good their recommendations, is one which he finds it difficult to assimilate. Indeed, in the case of the purely scientific office, the ability to find the proper men must be a part of the life education of the man who is to make the selection. It is safe to say that the best officers who have served in the coast and geological surveys are men, who, under the ordinary system of government appointments, would never have been heard of in connection with the positions which they so ably fill.

The same thing is true of the administration of a scientific bureau. No uniform system can be devised which will apply to all the details of a great scientific work. When we go beyond the regular routine operations, it is needful that the duties shall be accommodated to the man, and that in many cases a larger measure of liberty shall be allowed the latter than could be tolerated in the usual operations of a government department. All this requires, on the part of the administrative head of the department, an appreciation of the subject which can only be acquired by long familiarity. If the head is not specially charged with mastering the peculiar methods of administration thus rendered necessary, the chances are that he will fall into one of two opposite errors: either he will leave the heads of the scientific bureaus to manage things in their own way, without any administrative control whatever, or he will exert his authority in such a way as to endanger the efficiency of the work. The former is undoubtedly the more natural course to take, and thus arise the friction and duplication of work which so seriously impair efficiency and discipline.

Yet another feature of government scientific

work is that it is far removed from that public criticism which is so conducive to efficiency in other branches of the service. It is difficult to conceive that such a state of things as was exhibited by the surveys of the territories ten years ago could have existed in the performance of any work with which the public were conversant. At that time we had at least two independent surveys of the territories, prosecuted by different departments of the government, and with nominally different objects, but which were practically identical in their actual work. The officers in charge were independently surveying and mapping the very same regions. At the time that Hayden's Atlas of Colorado was published, Capt. Wheeler was engaged in surveying Colorado, and making maps of the territory substantially identical in their objects with those of Hayden. Both surveys were intended to cover the whole public domain.

Nothing quite so bad as this is likely to arise in the future. But there is still room for much duplication of work, as well as waste through competition in getting possession of particular fields. As a general rule, the head of a department is quite ready to approve of any extension of work which any of his bureau officers may propose, and has not always time to learn that the same work is being done, or might be better done, by some other department. The annual provision which congress has got into the habit of inserting into the appropriations for the signal-office — "provided that hereafter the work of no other department, bureau, or commission authorized by law shall be duplicated by this bureau" — is not quite satisfactory: it leaves open the question whether any proposed work is "the work of any other department, bureau, or commission."

The report of the National academy of sciences proposes to remedy some of these evils by placing the general policy of the scientific bureaus under the control of a mixed commission, organized somewhat after the plan of the Lighthouse board. If the bureaus are to remain separate, we see no better plan than this for securing the proper co-ordination of their work; but Major Powell points out certain difficulties in the way of its successful operation. His strongest objection is, that subordinate officers of various departments would have to practically control the work, thus reducing the heads of the departments to channels for transmitting instructions. If the proposed commission were to assume any administrative control of the work, this objection would certainly be fatal. The official responsibility of the head of a department for the work of his bureaus should not be interfered with. But the report of the academy expressly disclaims charging the commission with any administrative responsibility. Its sole function was to prescribe the policy of the bureaus; that is, to decide what each one should do, and what each one should refrain from doing: the whole execution of the work decided upon being left completely in the hands of the regular authorities. We see no reason why this should be 'irksome' to the heads of the departments. We also feel that Major Powell assigns undue importance to the influence of the single military officer proposed by the academy as one of the nine members of the commission. It is not so clear to us, as it seems to be to him, that one such officer could leaven the whole lump of the commission with ideas of military discipline unsuitable to the conduct of a scientific bureau.

But however favorably we may view the plan of this commission, we must hold that the consolidation of the bureaus under a single head, or in a single department, would give far more assurance of efficiency. Especially is this the case with the two national surveys. Their work now covers the same fields, and their mutual interdependence is such that they should work under a common plan. The geological survey requires for its proper execution certain geodetic and astronomical work, the execution of which is not within the proper province of the geologist. It is absolutely necessary that this geodetic and astronomical work should be so planned and executed as to meet the wants of the geological survey, and

at the same time it is the proper function of the geodetic survey. We are informed by Major Powell that he makes use of all the coast-survey results so far as they are available, but he does not indicate what fraction of his labor is thus saved; and it goes without saying, that he has no authority, directly or indirectly, to require that the coast and geodetic survey shall do any thing which he may want done.

Among the suggestions made by Major Powell was one that all the scientific bureaus should be placed under the general direction of the regents of the Smithsonian institution. This does not appear to have been considered practicable, and was not further urged by the director himself. One of the possible plans is to place all these bureaus under the interior department. The principal objection to this course is that that department is already overloaded with work, so that its head could not give the proper consideration to the subject. Yet this is the simplest course, and would certainly be an improvement on the present state of things. The more effective course would be to form a separate department of science and public works. To this there seems to be no positive and serious obstacle, except the difficulty of getting any measure of the sort enacted into a law. The question whether the head of the department should be a scientific expert or a public administrator, is an ulterior one, which need not be discussed at present. In the latter case, the question of its being regarded as a cabinet office would arise. There will be little hesitation in deciding this question in the negative.

In a future number we hope to discuss other testimony taken before the commission, and the proposition which appeared in the supplement to our last number.

THE BOTTLE-NOSE DOLPHIN, TURSIOPS TURSIO, AS SEEN AT CAPE MAY, NEW JERSEY.

This is the commonest dolphin on our Atlantic coast, occurring from Greenland to at least as far south as Florida; and Professor Flower is inclined to believe that it is cosmopolitan. The dolphins are very abundant along the shore of New Jersey, passing and re-passing close to the beach in schools of greater or less magnitude. The fishermen state that they usually pass around Cape May City into Delaware Bay upon the rising tide. Their movements would appear to be somewhat uncertain, however; for we lay all the morning at Hereford Inlet, expecting to see them approach from Seven-mile beach, and failed, but found them in the afternoon at Cape May point, from which we had started. It seems probable that they come into Delaware Bay from the southwest.

The school surrounded at Cape May point apparently comprised about thirty individuals. They showed no fear at the approach of the steamer. Upon striking against the large net in which they were impounded, they showed no disposition to leap over it, but attempted to make their escape by diving. Observations on this point, however, were brought to a speedy close from the fact that three specimens, becoming entangled in the net, rolled it up from the bottom, and thus allowed the remainder of the school to make their escape.

All the three specimens secured were females: two were adult, about two hundred and sixty centimetres in length, and the third a young animal about a hundred and twenty centimetres in length. On compressing the sides of one of the larger specimens, milk issued in a fine stream from the mammae. When collected in a bottle, it appeared of the color and consistency of cream, was without perceptible odor, and possessed the flavor of cocoanut-milk.

I placed some in a bottle to bring to Washington for analysis, but it soured in transportation on account of the warmth of the weather, and forced out the cork. The fishermen stated that the specimen which furnished the milk was followed about by the younger animal. Although I was not near enough to verify this observation, it seems to me very plausible. The teeth of the calf were barely visible above the gums, and it showed other signs of youth. I am inclined to believe that it was born in the spring of 1884, and that the time of weaning was not far distant when it met its death.

Upon opening the abdomen of the second adult specimen, we found a foetus about twelve centimetres in length. The stomach of both adults contained simply a few bones and one or two skulls of a fish which appeared to be