SCIENCE.

FRIDAY, DECEMBER 5, 1884.

COMMENT AND CRITICISM.

SEVERAL questions of importance, affecting the scientific work of the government, will come before congress during the session just opened. First among these will be the organization of the two great surveys and of the signal-service. Our readers have already been informed through this journal, as well as through the newspapers, that the question of the management of these bureaus was referred to a congressional commission, composed of three senators and three representatives, who are required by law to report their conclusions, by bill or otherwise, on or before the third Monday in December. This commission invoked the aid of the National academy of sciences, and a report from a committee of this body is already in the hands of the commission. The conclusions of this report have not been authoritatively made public; but, according to a newspaper account, it recommends nothing more radical than the concentration of the bureaus in question under a single department of the government, and the appointment of a commission to control the policy both of the coast and geological surveys.

It was naturally expected that the commission would itself enter upon a thorough and minute investigation of the subject, — a view which was strengthened by the fact that a meeting was called for Nov. 11; but, up to the present time, there are no indications that the commission is going to enter upon any very serious labors. Only one week will remain to it when these lines reach our readers, and we have not been able to learn that it has done any thing but postpone its meetings. In this it only reflects the natural tendency of the congress whose term is about to expire. A short session is, under any circumstances, unfavorable for new legislation, and the house would naturally be inclined to await the views of the incoming administration before adopting any measures which might hamper it. We must also remember that it is much easier to stop a bill than to pass it, and that we can hardly expect a measure to be devised which will command the unanimous approval of all concerned. The establishment of a bureau of electrical standards, as proposed by the electrical congress at Philadelphia, must take its chances with the measures for re-organization of the surveys. There is no likelihood of an independent measure for such a bureau being successful.

Other matters which may be expected to arise are international in character; namely, the legalization of the conclusions of the Paris electrical conference and of our own meridian conference. In both these matters we can only hope that congress will make haste very slowly. There is no apparent pressing reason for speedy action on either subject, since both might very well take care of themselves without legislation; and there is a chance of much harm being done by too hastily adopting conclusions which may soon be found to need revision. The standard of light of the Paris conference has not been shown to be realizable in practice, and the accuracy of its ohm is already being called in question. In the case of the meridian conference, so far as its conclusions define the counting of longitudes from Greenwich, they merely authorize our universal practice, and there is hardly more need of our legislating upon the subject than there is of enacting that people shall eat their dinners. If its universal day is found convenient, it will come into use of itself; if not, congress ought not to legalize it. Altogether, we do not see much prospect of very good measures being devised between now and the 4th of March; and we may as well, therefore, reconcile our-

Ergot nectar.

During the past summer I received a kind of grass from several of the northern states, which was sent me under the name of manna-grass. It proved to be Glyceria fuitans. It was stated that the bees were gathering large quantities of very delicious honey from this grass. I could readily believe the report, as the grass was covered with small crystals, as if it might have been wet, and dipped into granulated sugar. This sugar was very sweet and pleasant; and I have no doubt, that, like the nectar from Aphides, it would be wholesome winter food for bees, and no injury in honey for the market. The bees expressed the same opinion, as I learn that they would not leave this grass even for clover or linden bloom.

Upon examination, I found that the grass was covered with ergot grains, and that the nectar was a secretion from this poisonous fungus.

We see, then, that even the poisonous ergot, which I believe some of our best veterinary scholars think caused the so-called 'foot and mouth disease' among the cattle of Kansas last winter, has its wholesome uses. Why the ergot secretes this pleasant sweet, is hard to answer. The nectar, doubtless, serves the fungus in some way.

A. J. Cook.

Agricultural college, Michigan,
Nov. 25.

THE 'OLD STONE MILL' AT NEWPORT.

Finding myself in Newport lately, I took occasion to make some measurements upon that old circular building about whose origin (whether English or Norse) there has been so much dispute. I have not the slightest title to an opinion upon that subject, in which I have only a metrological concern. The building is circular, and rests upon eight cylindrical pillars. It is of such a size that any one would say, before measuring it, that the pillars would be circumscribed by a circle of four yards radius, and inscribed by one of three yards radius. The building could not have been erected without a drawing to scale, so that a unit of length must have been employed, and that unit (whether Norsemen or English were the builders) would undoubtedly be a foot. The Icelandic foot was, I take it, the same as Denmark and the Scandinavian countries used up to the adoption of the metric system; that is to say, it coincided with the Prussian foot of 12.36 inches English.

I found the diameters of the structure, measured at the pillars, as follows: —

From outside to outside of the shafts.	Between the inward sides.
24 feet 8 inches.	18 feet 6 inches.
24 " 8 "	18 " 5 "
24 " 9 "	18 " 4 "
24 " 7 "	18 " 5 "
Mean . . 24 feet 8 inches.	Mean . . 18 feet 5 inches.

I think there can be little question that these lengths were meant to be 24 and 18 of the feet used. But supposing that I ought to have gone, say, farther out for the outer diameter (for instance, as far as the bases of the pillars extend), then I ought to have cut off the internal measure by the same amount; so that the mean of the two measures that I have taken is almost certainly 21 of the original feet. This mean is 21 feet 6½ inches, which, divided by 21, gives 12.31 inches as the length of the foot used. Besides the two lengths just mentioned, I found no other of sufficient magnitude, which I could conveniently measure, except the heights of the pillars. These appear to be intended to be 8 feet from the top of the base to the upper side of the cap-stones. The latter are 6 inches thick, as well as I could judge, leaving 7½ feet for the height between the base and capital. This could readily be measured with a tape-line, and was measured [1] on the insides of the pillars at two places on each pillar, — one at the right, and the other at the left. The following are the results: —

North arch.	East arch.	South arch.	West arch.
7 ft. 7 in.	7 ft. 8 in.	8 ft. 2 in.	7 ft. 7½ in.
7 " 5 "	7 " 8½ "	8 " 2 "	7 " 5 "
North-east arch.	**South-east arch.**	**South-west arch.**	**North-west arch.**
7 ft. 7½ in.	7 ft. 9 in.	8 ft. 0½ in.	7 ft. 6 in.
7 " 8½ "	7 " 8 "	8 " 0 "	7 " 6½ "
East arch.	South arch.	West arch.	North arch.

The mean of these is 7 feet 8⅝ inches; but the two south-west pillars are so different from the others, that I think it is more satisfactory to adopt the middling heights. Excluding, then, the two highest and two shortest pillars, the others measure

	7 feet 8 inches.
	7 " 8½ "
	7 " 8½ "
	7 " 7¾ "
Mean . . .	7 feet 8⅛ inches.

We have, then,

	Outer diameter.	Inner diameter.	Height.
Presumed intentional measure.	24 ft. 0 in.	18 ft. 0 in.	7 ft. 6 in.
Same in English feet, if foot used was 12.31 English inches.	24 " 7.4 "	18 " 5.6 "	7 " 8.5 "
Same, if foot used was the Scandinavian foot of 12.36 English inches.	24 " 8.6 "	18 " 6.5 "	7 " 8.7 "
Observed	24 " 8 "	18 " 5 "	7 " 8.1 " to 7 " 8.9 "

I made some other measures, which, though I think them of no value for determining the value of the foot, I proceed to give.

[1] The tape-line is believed to require about half an inch negative correction for all the measures. This has not been applied, as I have been unable to obtain the tape to verify the correction. In any case, such a correction is negligible in measuring so rough a structure.

Heights of the pillars on the outside.

7 feet	3½ inches.
7 "	5 "
7 "	4 "
7 "	6 "
7 "	3 "
7 "	10 "
7 "	7 "
7 "	5 "
Mean . .	7 feet 5 1/16 inches.

Circumferences of the pillars.

10 feet	11½ inches.
10 "	2 "
10 "	0 "
9 "	9 "
9 "	9½ "
Mean . .	9 feet 11.6 inches,

giving diameter, 3 feet 2.1 inches.

Sockets for jambs below.

Breadth . . .	0 ft. 4½ in.
Height . . .	0 " 4 "
Depth . . .	0 " 2½ "

Original height of frame, 2 feet.

South west niche.

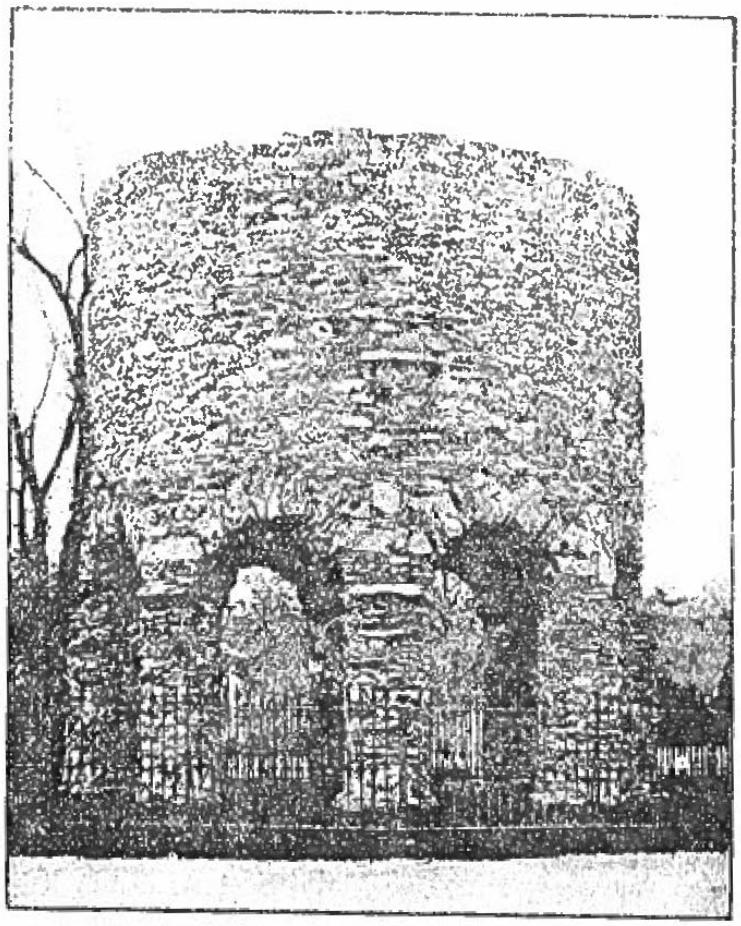
Breadth . . .	1 ft. 6 in.
Height . . .	1 " 3 "

West window.

Breadth . . .	2 ft. 2 in.

Higher socket.

Breadth . . .	1 ft. 6 in.
Height . . .	1 " 4 "



Diameters of bases of columns (most regular).

3 feet	10 inches.
3 "	9½ "
3 "	9½ "
3 "	10 "
Mean . .	3 feet 9¾ inches.

Circumferences of bases.

12 feet	2 inches.
11 "	9 "
12 "	1 "
12 "	2 "
Mean . .	12 feet 0½ inches,
corresponding to diameter,	3 " 10 "

Fireplace.

Breadth . . .	5 ft. 5 in.
Height . . .	4 " 0 "
Breadth at base,	2 " 7 "

Niche on the right of fireplace.

Breadth . . .	2 ft. 3½ in.
Height . . .	2 " 1½ "

Small niche or socket on south side.

Breadth . . .	1 ft. 6½ in.
Height . . .	1 " 8 "

South window.

Height outside,	2 ft. 5½ in.
Breadth . . .	2 " 2 "

My ladder was too short to enable me to measure the upper parts.

Without wishing to express any archeological opinion whatever, I cannot refrain from saying, that, as far as I could perceive, all the rough-cast covering the walls, the smooth mortar in the sockets, etc., were a part of the original mortar. There is a certain amount of later mortar, but it is readily distinguished upon close inspection.

The fireplace has two flues; and the windows formerly had frames, as if for holding glass. The projections of the pillars beyond the upper part of the tower suggest that there might have been a ledge upon which a miller could climb to turn round the axis of the sails of

the wind-mill. The two separate flues to the fireplace might prevent the draught from being interfered with by the axle. But would not a fire in a grist-mill be dangerous?

The hearth of the fireplace was elevated above the floor, as in a forge. The building had two stories above the ground. Its total height is about twenty-five feet.

The stones, many of them granite, show no drill-marks and no marks of an axe, but do show marks of the hammer. C. S. Peirce.

THE 'HOOD' OF THE HOODED SEAL,[1] CYSTOPHORA CRISTATA.

All the figures of the hooded seal which I have seen represent the animal with a great bunch on the top of its head. This bunch is made to vary somewhat in shape, size, and position, in the different illustrations: but all agree in placing it on top of the head, no part ever protruding beyond the jaw. It is sometimes pictured as extending transversely across the crown, sometimes as a double or single roll reaching from the nose to the occiput. The earliest delineation of it which has fallen under my observation is that given by the old missionary, Hans Egede, in his description of Greenland, published in 1741 (fig. 1). Crantz, who was also for many years a missionary in Greenland, said, "The forehead is furnished with a thick folded skin, which the animal can draw over its eyes like a cap, to protect them from stones or sand driven about by the surf in a storm." And even Dr. Rink, in his recent excellent work on Danish Greenland, says that this seal 'is well known from the bladder on its forehead.' In Griffith's

Fig. 1.

'Cuvier' it is stated that the hooded seal "has the power of bringing a fold of skin placed on the forehead, forward, so as to cover the eyes, which it does when threatened, or about to be struck. . . . When at rest, or drawn back, it considerably enlarges the apparent size of the neck and shoulders." The only adult hooded seal, so far as I am aware, possessed by any museum in America, is in the American museum of natural history at Central Park, New York. Its head is very well represented in the accompanying drawing (fig. 2).

Fig. 2.

Determined to visit the seal-fishery in person, I set sail from Halifax in February, 1883, proceeding northward from Newfoundland in the cabin of the ill-fated Proteus, in her annual cruise to the sealing-grounds. On the 18th of March, after a somewhat laborious walk over an ice-floe, I found myself face to face with a family of hoods, and discovered that the male, — a huge beast, bigger than an ox, — instead of having a crest, or fold of skin, on the top of his head, was provided with a great proboscis, suggesting that of the sea-elephant of the antarctic (fig. 3). He looked on with apparent indifference, while his mate, solicitous for her young, advanced to meet me, growling fiercely, and displaying her sharp, curved teeth. Wishing to observe her actions, I annoyed her for a few minutes with my gaff, — a proceeding which it is by no means safe to undertake with the male. While this encounter, in which she was the aggressive party, was in progress, her spouse began to manifest symptoms of uneasiness, and finally became very much enraged, though he did not attempt to drag his ponderous body to the scene of the conflict. He at first showed his displeasure by frowning, and wrinkling the skin on his long snout. The tip of the proboscis was then inflated and emptied several times in rapid succession, after which the entire 'hood' was partially inflated. In

[1] Abstract of a paper read before the Biological section of the American association, Sept. 9, 1883.