SCIENCE.

FRIDAY, MAY 30, 1884.

COMMENT AND CRITICISM.

THE despatches from Washington recently contained the following paragraph: "Owing to the failure of congress to appropriate the money asked for to publish the monthly pilot-chart issued from the hydrographic office, and to cover the expenses of the branch offices at the various ports of the Atlantic and Pacific coasts, orders were issued from the navy department to-day to close those offices on the 1st of July next, and to discontinue the publication of the pilot-chart after that date." A disinterested observer might express regret at the necessity of economy so stringent as this, and surprise at so marked a sign of national poverty. His surprise would probably be increased, on reading further, in the news of the same day, the statement that it is proposed in congress, with much probability of success, to remove a former limitation of the pensions act, so as to make valid about fifty thousand claims filed for arrears of pensions, averaging twelve hundred dollars apiece, — a bill for sixty million dollars. An additional amount would be required to provide for similar claims, that would be filed in case this wholesale bill became a law; so that it would involve in the end the expenditure of over a hundred million dollars.

We may well leave it to the economical politicians and political economists to decide whether so considerable a share of the sum lately reported to be in the treasury vaults should be expended on unexpected pensions. It is sufficient for our purpose simply to call attention to the fact that the possibility of the mere consideration of such a pensions-arrears bill is enough to convince any disinterested observer that true economy can have no share in the crippling of the work lately entered on by the hydrographic office. The failure to vote appropriations for this work is a selfish economy, practised in a quarter where those in power hope it may not seriously affect them. The lavishness of the proposed pensions-arrears bill is a selfish generosity, arising less from regard for the pensioners than from desire for the votes they may control. On the basis of special appropriations, the hydrographic office undertook a task that has been well performed, bringing out valuable results, that have been well received; and now, just as it is fully under way, an unfair and undeserved neglect requires its suspension. There is neither propriety nor justice in such arbitrary action.

It happens that a reduced copy, prepared several weeks ago, of one of the charts in question, appears in this number of *Science*, from which our readers may form some estimate of the care expended in its production, and of the value to nautical men of the great amount of timely information presented upon it. It is difficult to understand how a congress that is professedly desirous of reviving and encouraging our shipping interests can wish to discontinue the issue of a set of charts that contribute directly to the safety and success of our merchant marine; or to dis-establish the branch hydrographic offices in several of our larger ports that furnish the most recent and trustworthy nautical information to masters of vessels about embarking, and that gather in and preserve for the best future use the observations of those who have just come ashore from voyages across the seas.

UNQUESTIONABLY, many of our agricultural publications deserve the severe censure which has been bestowed on them for diffuseness, and for a tendency to use padding to an unwarrantable extent; but these two censurable faults are due to the exigencies of the case. Most of these publications are designed for the entertainment, or rather the improvement, of

bucolic readers, and they doubtless serve their purpose: it is, however, a fair question, whether a scientific man has the right to bury his discoveries, or even the confirmatory results of his researches, by giving them only to publications of this character. The wheat may be served up with chaff as provender, if need be; but a portion of the same wheat, judiciously winnowed for presentation in the journals of our learned societies, or in the established periodicals which are widely accessible to scientific men, would doubtless yield a fairer return to science. It is, in short, exasperating to find important facts regarding the structure and the life of domestic animals and cultivated plants published only in the midst of details which are of little interest to any one, except as they may have a remote influence upon possible appropriations by a legislature. We submit, that it is the duty of experimenters, who are obliged to publish in such ephemeral, not to say trashy pages, to present the scientific features of their useful work also in a more worthy manner.

THE account given in our notes, of an engineering work planned in western New York, may serve to convince those cautious legislators who look chiefly for immediate results from the forces which they set in motion, that even so theoretical an affair as a state topographical survey may have direct and practical ends. A large swamp occupies a district that might be valuable agricultural land, and spreads its unhealthy exhalations over the adjoining country. The farmers thereabouts, impatient at the slowness of the outlet-stream in cutting down the rocky barrier that holds up the swamp, ask for state aid to hasten the deepening of the channel. The state surveyor is called to their aid: he examines the ground, and reports that the undertaking is entirely feasible, and that, while thus to discount nature's work will cost somewhat over one hundred thousand dollars, the operation may nevertheless commend itself even to the most careful counter of the cost, for the value of the drained land will be increased over one million dollars.

LETTERS TO THE EDITOR.

The cranial ribs of Micropterus.

IN No. 65 of *Science*, Mr. Shufeldt has called attention to a pair of rib-like structures articulating with the 'base of the occiput' in Micropterus salmoides. He is apparently inclined to refer them to an occipital vertebra. Sagemehl has lately (in the *Morphologisches jahrbuch*) advanced a theory to the effect, that, in the occipital region of all teleostean skulls, there are a certain number of vertebrae which are to be compared to the anterior spinal vertebrae of the elasmobranchs, and which have fused more or less completely with the true coalesced occipital vertebrae; i. e., those corresponding to the vagus branches. Without either condemning or supporting this theory, I may point out, that, even though spinal vertebrae should have been taken up into the skull, there is no apparent reason why their ribs should persist. The ribs of teleosts are ossifications of the internal portions of the myocommata, and on the disappearance of these, consequent on the abortion of the segment, one would naturally expect the disappearance of the ribs also.

I have, unfortunately, not been able to examine a black bass osteologically, and therefore cannot speak with any degree of certainty as to the nature of the structures described by Mr. Shufeldt. There is, however, a very possible explanation for them; and that is, that they are portions or rudiments of the supraclaviculae. In many fish these are two T-shaped structures, the portion corresponding to the perpendicular limb of the T being, in each, horizontal, and articulating with the lower portion of the occipital region; while one end of the portion corresponding to the transverse limb articulates with the pterotic and epiotic, and the other end with the mesoclavicula. If the perpendicular limb were to ossify separately, or if the transverse limb should become rudimentary, a condition would result, apparently similar to what Mr. Shufeldt describes.

This is, of course, merely a suggestion, thrown out for the purpose of arriving, if possible, at a correct identification of these peculiar structures.

J. PLAYFAIR MCMURRICH.

Ontario agricultural college, Guelph, Can., May 13.

A singular optical phenomenon.

The phenomenon described by 'F. J. S.' in *Science*, No. 57, and which I at first thought must have been a binocular phantom image, I now think has been truly explained by Mr. Oliver in No. 63. If so, it is only one of a class, examples of which may be seen on every side. I never pass a picket-fence, with another similar fence beyond, without observing and admiring the broad waves of interference running rapidly in one direction or the other. I never look through two fly-screens, one behind the other, without remarking the tortuous shifting waves of interference, like waves of *watered silk*. A lady's silk veil loosely folded shows the same effect beautifully. Of course, the phenomenon is well known and understood; but I was misled by the fact that 'F. J. S.' described it as in mid-air, and nearer the fly-screen. I suppose it may be imagined at any distance, but is usually referred to the plane of one of the objects.

JOSEPH LECONTE.

Berkeley, Cal., April 28.

Popular names of California flowers.

A botanist, coming to the Pacific coast, may be surprised at the large number of plants that are generally