SCIENCE

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DRAKE'S REPORT ON THE GEORGIA OYSTER-BEDS.

THE United States Coast and Geodetic Survey has recently published a bulletin (No. 19) containing a report by Ensign J. C. Drake, U.S.N., and assistant United States Coast and Geodetic Survey, on "The Sounds and Estuaries of Georgia with Reference to Oyster-Culture." The author states in his preface that he had but five months for the examination, and but a limited fund at his disposal, and makes no claim for completeness of the work done under those circumstances; nevertheless the results of the examinations appear to have satisfied all the requirements, and the people of Georgia are in possession of the information necessary for wise legislation on the oyster question; and to obtain that was the principal object of the examination.

Mr. Drake reports that he examined all the ground in any way suitable for oyster-growing, the area being some seventy thousand acres. Of this, he finds some thirty thousand acres as suitable for oyster-culture, and some forty thousand acres unsuitable. His decisions in the premises are based upon the character of the bottom and density of the water. He alludes only casually to the number and character of the predatory enemies of the oyster, which is to be regretted; nor does he give much information regarding the oysters found, beyond the fact that they are not "fat," or fit for market, until late in the year. The significant intelligence, however, is that the beds are much depleted from over-fishery.

As the State possesses only some seventeen hundred acres of natural beds, and as these are already much depleted, it is not wonderful that the Legislature desired an investigation, in the first place, and followed it up by passing a liberal law encouraging the cultivation of additional areas; and it is gratifying to learn that under this law some three thousand acres (one-tenth the available area) are already in process of improvement, for, indeed, our oyster-industry is in a sad way, and we must look to the private cultivator for the future supply. Any thing that States can do, investigation accomplish, or enterprise bring about, in this field, will be gladly welcomed by a public which has seen the price of oysters increase from twenty-five cents to fifty cents per bushel in ten years, and the ratio of increase still continuing.

Nearly twenty years ago the Coast Survey began its investigations of the oyster-beds of the country. Count Pourtales was the pioneer. He was followed by Collins and Winslow of the Navy, Bradford of the Survey, and again by Winslow. The United States Fish Commission has added also to the fund of information; and Professors Goode, Ryder, and others have made many valuable reports on the condition of the industry. The Johns Hopkins University has, in connection with the State of Maryland, published the reports and studies of Dr. W. K. Brooks, and no more valuable addition to our knowledge has been made than these reports. The States of Rhode Island, Connecticut, New York, Maryland, and North Carolina have organized commissions and surveys, and have exhaustively studied the condition of the beds, the fishery, and the general industry of their particular waters.

In the mass of literature that has come into being during the last ten years, it would be naturally expected that some differences should exist as to the condition of the beds and as to the remedy to be applied; but in the main essentials no differences do exist. All the various persons, officials, and bodies, working at different times, in different localities, and without connection, have uniformly reported that the natural oyster-beds were either extinct or fast becoming so, and that the only remedy was to encourage cultivation by private enterprise.

With such unanimity of testimony and advice, it would seem impossible that the remedy should not be applied. Unfortunately such has not been the case. It is true that a few progressive States, such as Connecticut, New York, North Carolina, and Georgia, have started on the right road; but the great oyster areas of the Chesapeake are likely to remain many years uncared for; and, while their beds are being rapidly destroyed, no provision is made to meet the enormous demand which the Chesapeake has heretofore supplied. It is possible that the legislation in North Carolina, which has been in operation several years, may have some effect by encouraging cultivation of the large tract of oyster bottom the State possesses; but, unless such cultivation is now in progress to a very considerable extent, it will not be sufficient to prevent such a falling-off of the supply as to amount to something like an oyster famine in a few years.

It would not be surprising if oysters were soon out of the reach of most people's pockets. If they do become so, we will have the consolation of knowing that we had ample warning, and the gentlemen who have conducted the investigations and made the reports for these many years can have the satisfaction of seeing their prophecies realized. The more reports we have, the better; the more extensive the investigation of the subject, the sooner will a remedy be adopted; and the community has reason to thank the Coast Survey for this last addition to our knowledge, and to congratulate Mr. Drake on his very successful prosecution of a work of so much importance.

HEALTH MATTERS.

Inoculation by Mosquitoes against Yellow-Fever.

DRS. FINLAY and DELGADO of Havana have published some statistics of their practice of inoculating persons newly arrived in Cuba against yellow-fever by means of mosquitoes which have been caused to contaminate themselves by stinging a yellow-fever patient. These observations, according to the *Lancet* of Jan. 31, have been carried on for the last ten years, and, in addition to a certain number which are still incomplete, may be said to consist of fifty-two cases of mosquito inoculation which have been fully followed up. Of these, twelve experienced between the fourth and the twenty-sixth day after inoculation a mild attack of yellow-fever, with or without albuminuria; twelve experienced no symptoms of yellow-fever either within twenty-five days after the inoculation or during three years subsequently; twenty-four experienced no symptoms within twenty-five days, but contracted a mild attack before the end of three years, either uncomplicated by

albuminuria altogether, or with only a very transient appearance of it; three who had had no symptoms within twenty-five days contracted well-marked yellow-fever within three years; one patient who had a mild attack in consequence of inoculation contracted a severe attack later on, which proved fatal: that is to say, of those who had been inoculated, only about eight per cent contracted the disease in a well-marked form, with a mortality of under two per cent. In order to enable one to appreciate the significance of these figures, the authors mention that they observed sixty-five monks who from time to time arrived in Havana, where they all lived under similar conditions. Thirty-three of these were inoculated, and thirty-two were not. Only two of the inoculated contracted well-marked attacks, which, however, did not prove fatal; whereas eleven of those that had not been inoculated were severely attacked, no less than five dying. It is remarked that inoculations performed in the cold weather are not entirely trustworthy, and that they should be followed up by a repetition in the spring.

A New Bleeding Era.

The discussion which took place at the last meeting of the Royal Medical and Chirurgical Society of London was in many respects interesting and noteworthy, says the *British Medical Journal* of Jan. 31, 1891, editorially. Dr. Pye-Smith is to be congratulated on having so effectually succeeded in directing attention to a subject which must always have a real, if even only an historical, interest.

The reflections and conclusions contained in the paper were based upon the record of some fifty cases coming under the notice of the writer, in which venesection had been resorted to. The range of diseases in which it was employed included such acute affections as bronchitis, acute broncho-pneumonia, lobar pneumonia, miliary tuberculosis of the lungs, with others of more chronic nature, such as valvular disease of the heart with pericarditis, Bright's disease, aneurism, and epilepsy. Its value in other conditions, such as hemoptysis, apoplexy, uremic coma, was also considered.

The discussion which ensued was remarkable, on account of the almost complete unanimity which the speakers expressed in favor of the adoption of this method of treatment in suitable and urgent cases. All testified to the great and immediate relief which venesection gave under such circumstances, — a relief unattended by any ill consequences on the subsequent progress of the disease.

Considerable differences of opinion, it is true, existed as to the cases most likely to be benefited by the treatment, or, rather, as to the cases which, in the experience of the various speakers, had most benefited by the treatment; for it was one of the noteworthy features of the discussion that there was a commendable absence of recourse to theoretical considerations as a basis for the practice.

In this respect the subject of venesection occupies a different position from that held by it in the former "bleeding era," to which reference was made in such humorous and instructive fashion by Sir George Humphry and Mr. George Pollock. The practice was then based on the humoral pathology which so long dominated the practice of medicine, — that pathology which ascribes disease to the presence of deleterious agents in the blood, and which seemed, therefore, to justify the withdrawal of a certain quantity of the noxious blood as one of the best ways of curing it. As Dr. Broadbent pointed out, it was because the practice had been based so entirely on theory that it was carried to excess, and fell into such disrepute.

One of the chief merits of Dr. Pye-Smith's paper and of his subsequent remarks was to lay stress on the importance of resorting to venesection; not for the cure of pathological conditions as such, but for the relief of distressing symptoms depending on temporary alterations in the physiological balance of the circulation. As to the first indication laid down for the performance of the operation, — cyanosis with distention of the right side of the heart depending on pulmonary or other obstruction to the circulation, — there was a consensus of opinion favorable to the operation; but Dr. Broadbent did well to point out, that, before resorting to venesection under such circumstances, there should be evidence, as shown by the disparity between the strength of the heart's beat and the weakness of the pulse, that the right ventricle was still acting powerfully, and able to take advantage of the relief afforded it by the withdrawal of blood.

As to the second indication, — the pain of aortic aneurism, — the cases mentioned by Dr. Pye-Smith and Mr. Hulke, in which instantaneous relief was thus given, were very striking; and evidence of its curative effect on the aneurism was also incidentally adduced by Mr. Jonathan Hutchinson. Nevertheless, as Dr. Stephen Mackenzie pointed out, it may be doubted whether, in iodide of potassium, nitrite of amyl, and nitro-glycerine, we do not possess remedial agents equally powerful and equally efficacious in relieving the high arterial tension on which such attacks of pain depend. The discussion, indeed, brought out the fact that it is in relieving pain that venesection finds one of its best applications, and more especially in relieving the intense inflammatory pain of pleurisy, pleuro-pneumonia, or the severe pain, with threatening onset of cerebral symptoms, following injury to the skull.

To those accustomed, as most now are, to regard loss of blood, from whatever source, as an unmitigated evil, the suggestion to follow up an extensive bleeding from the lungs by a further bleeding from the arm is startling. Nevertheless, something can be said, and was adduced by one of the speakers, in favor of its adoption in cases in which the patient is in urgent danger of suffocation from the reflux of blood into the bronchi. It is, however, peculiarly open to the objection brought against the operation of venesection generally, — that, in the present state of public opinion as to blood-letting, the discredit of a fatal result is too likely to be hastily assigned to the venesection. Apart from such considerations, however, the general result of an unusually animated discussion will be to direct attention once more to the possible advantages attending the judicious employment of a mode of treatment long condemned as not only useless but dangerous.

NOTES AND NEWS.

AN instrument called the "hæmatokrit" has been invented by Herr von Hedin. It is for determining the volume of corpuscles present in blood, and is based on centrifugal action. As described in *Nature*, a volume of blood and one of Möller's liquid (which prevents coagulation) are mixed together, and the mixture is poured into small, thick walled glass tubes, graduated in fifty parts. The tubes rest on a brass holder which is fixed on the axis of a rotation-apparatus. After some eight thousand rotations, in five to seven minutes, the process is complete. The separation between the corpuscles and the salt-plasma is more distinct, in that a narrow band of leucocytes appears between them. The instrument is useful in comparing the blood of different individuals. With a little practice, the total error is not more than one volume per cent.

— Archæologists have, of course, been profoundly interested by the recent discovery of a vault filled with mummies and funereal coffers at Deir Elbahiri, near the plain of Thebes. The Cairo correspondent of the London *Times*, telegraphing on Feb. 24, gives the following as the latest details, according to *Nature* of Feb. 26: "The site of the discovery is east of the Temple of Queen Fatasou, in a small spot previously undisturbed, amidst the excavations made by the late Mariette Bey and Brugsch Pacha. A well-shaft of 15 metres leads to a doorway blocked with large stones, opening on a gallery 73 metres long, whence a staircase descending 5½ metres conducts one to a lower gallery 12 metres in length, both lying north and south. The lower gallery gives access to two mortuary chambers 4 and 2 metres square respectively. At the top of the staircase is a transverse gallery 54 metres long, lying east and west, the object of which is unknown. The total underground area is about 153 metres, excavated in the limestone rock to over 65 feet below the surface. The same disorder reigned amongst the contents of the tombs as was found when the famous royal mummies were discovered nine years ago. Sarcophagi were piled upon sarcophagi, and alongside were boxes, baskets of flowers, statuettes, funereal offerings, and boxes crammed with papyri. There is every indication that the place, though originally constructed as a vast tomb, was chosen for hurried conceal-