

pose of obtaining his diploma. He did, indeed, go, but he never returned. I cannot say whether he underwent the examination, but he certainly did not obtain a diploma. A certain number of Protestants have been dissentients for some years past, and have established a school, which has been in charge of a young married woman of very limited capacity. She intimated her intention of trying to obtain her diploma, and I obtained for her the books containing the information requisite for candidates. I have advised the commissioners to establish the system of assessments, but throughout the whole county I have encountered obstacles to the establishment of this order of things.

The commissioners informed me that they experienced great difficulty in obtaining very competent teachers at the salaries they could offer. I have endeavored to engage a certain number of teachers in the county of Megantic, to go and teach in those municipalities, but the low salaries offered and the remoteness of the localities have led them to refuse my offers.

(To be continued.)

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

Mr. EWART'S Bill, to extend the benefits of Education in the Universities of Oxford and Cambridge to students not belonging to any College or Hall, was read a second time on Wednesday, the 3rd July. It gave rise to an animated discussion, which ended in the second reading being carried by a majority of 164 to 150; and the Bill was then ordered to be referred to a Select Committee, which has now been sitting for some weeks, and is likely to be engaged for some time to come in collecting evidence on the subject. The Bill provides, that "Notwithstanding anything contained in any Act of Parliament now in force relating to either of the Universities of Oxford and Cambridge, or in Statutes, Charters, Deeds of Corporation, or other instruments of Foundation of either of the said Universities, or of any College or Hall within the same, any person may be matriculated without being entered as a member of any College or Hall and may, if he shall think fit, join himself to any College or Hall with the consent of the head thereof, but without being obliged to reside within the same, and every person so matriculated shall in all respect and for all intents or purposes be and be considered as a member of the University, and upon joining any College or Hall shall in all respects and for all intents or purposes be and be considered as a member thereof."

Among the speakers in support of the Bill were Mr. Fawcett, Mr. Lowe, and Mr. Gladstone. The Bill was opposed by Mr. W. Heathcote, Mr. Henley, and Mr. Selywn, who pointed out that no provision was contained in it for the maintenance of the necessary discipline over the out-students; and that, as the best mode of extending the benefits of University Education was now being considered by the most active minds of both Universities, it would be unfair, before they had worked it out to press a compulsory measure upon them. Mr. Lowe asked the House to read the Bill a second time, as there was little chance of the Universities doing anything of themselves, for they had had this subject before them now for two years. He grounded his support of the Bill chiefly on a contrast of the magnificent endowments of the Universities and the ridiculously small number of persons who were admitted to compete for them, and on the necessity of doing something to open the Universities to a poorer class of scholars. Mr. Gladstone, replying to the argument that the discipline of the out-students had not been provided for, pointed out that this was left, as it ought to be, entirely to the University authorities. He supported the Bill as a step in advance, supplementary to, and rendered necessary by the failure of the system of private halls and licensed houses, and the recognized insufficiency of the college system. He dwelt with great force on the necessity of extending the influence of the Universities, on the trifling hold they now maintained on the legal and medical professions and the manufacturing and commercial community, and on their falling hold even of the Church, and predicted that, if some moderate attempt were not made to increase the value of the endowed teaching staff of the Universities, a more sweeping innovation would be proposed under the more earnest regime which was approaching.

Although the debate altogether added but little to the arguments pro and con which have often been previously advanced, it summed them up with some succinctness, and has thus helped forward the public comprehension of a very important question. The appointment of a Committee to inquire cannot fail to do much good, and every one engaged in education will await with interest the publication of its Report, and the evidence it has collected, on the working of a system which even its best friends cannot wholly approve.—*Educational Times*.

SCIENTIFIC INTELLIGENCE.

—A life-time might be spent in investigating the mysteries hidden in a bee-hive, and still half of the secrets would be undiscovered. The formation of the cell has long been a celebrated problem for the mathematician, whilst the changes which the honey undergoes offer at least an equal interest to the chemist. Every one knows what honey, fresh from the comb, is like. It is a clear, yellow syrup, without a trace of solid sugar in it. Upon straining, however, it gradually assumes a crystalline appearance, it candies, as the saying is, and ultimately becomes a solid lump of sugar. It has not been suspected that this change was due to a photographic action; that the same agent which alters the molecular arrangement of the iodide of silver on the excited collodion plate, and determines the formation of camphor and iodine crystals in a bottle, causes the syrup honey to assume a crystalline form. This, however, is the case. M. Scheibler has enclosed honey in stoppered flasks, some of which he has kept in perfect darkness, whilst others have been exposed to the light. The invariable results have been that the sunned portion rapidly crystallizes, whilst that kept in the dark has remained perfectly liquid. We now see why bees are so careful to work in perfect darkness, and why they are so careful to obscure the glass windows which are sometimes placed in their hives. The existence of their young depends on the liquidity of the saccharine food presented to them, and if light were allowed access to this, the syrup would gradually acquire a more or less solid consistency; it would seal up the cells, and, in all probability, prove fatal to the inmates of the hive.—*Chronicle of Optics, in the Quarterly Journal of Science*.

—A French journal says that the soundings for the new trans-Atlantic cable have enabled comparisons to be made of the depths of the different seas. Generally speaking, they are not of any great depth in the neighborhood of continents. Thus, the Baltic, between Germany and Sweden, is only 120 feet deep; and the Adriatic, between Venice and Trieste, 130 feet. The greatest depth of the channel between France and England does not exceed 300 feet, while to the southwest of Ireland, where the sea is open, the depth is more than 2,000 feet. The seas to the south of Europe are much deeper than those in the interior. In the narrowest part of the Straits of Gibraltar the depth is only 1,000 feet, while a little more to the east it is 3,000 feet. On the coast of Spain the depth is nearly 6,000 feet. At 250 miles south of Nantucket (South of Cape Cod), no bottom was found at 7,000 feet. The greatest depths of all are to be met with in the Southern Ocean. To the west of the Cape of Good Hope, 16,000 feet have been measured, and to the west of St. Helena, 27,000. Dr. Young estimates the average depth of the Atlantic at 25,000 feet, and of the Pacific at 20,000.—*Annual of Scientific Discovery*.

Beating of the Heart.—In ascending into the air, the heart-beats increase 7 for the first 3,000 feet, 7 for the next 1,500 feet, 8 for the next 1,500, and 7 for each 1,500 feet of ascent after that. This is an average increase of one beat for each 100 yards of ascent.—*Id.*

—M. Du.ossé summed up a memoir on this subject before the French Academy with these general conclusions: "Anatomy, physiology, and the history of the manners of animals all agree in demonstrating that nature has been far from refusing to all fishes the gift of expressing by sounds their instinctive sensations, but she has not accorded to these beings that unity of mechanism in the formation of sonorous vibrations which she has done in the first three classes of the vertebrates. There are in the organization of fishes at least three essentially distinct mechanisms, of gradually diminishing physiological value. Many species have the power of emitting commensurable sounds, musical, and engendered by a mechanism of which muscular vibration is the principal motive-power; others can give birth to breathing sounds like those which many reptiles emit, and finally others have only the power of making stridulous noises, the effect of a coarse mechanism, such as is found in a great number of insects. It would be a misconception of the physiological definition of the word voice, to use that word for the purpose of designating sounds so very different one from another, and especially the commensurable sounds which fishes produce by means of three organic mechanisms which have no resemblance to each other."—*Id.*

—The small people of Equatorial Africa, recently discovered by Du Chaillu, about 1° and 2° south latitude and 12° east longitude, are described as of migratory habits, and as changing their temporary shelter under trees from one place to another. While the inhabitants of this mountain region are lighter in color than those of the sea-shore, these Obongo are still less dark. They have only short tufts of hair upon their heads, and are thus strikingly distinguished from the settled inhabitants, who wear large turrets of hair upon their heads. "The following are the measurements I was enabled to make: The only adult male measured four feet and six inches, but as one of the women reached five feet and one quarter of an inch she being extraordinarily tall, I have no doubt some of the men are equally tall, and some perhaps taller. The other women I measured had the following height; four feet one inch, four feet seven and a quarter inches, four feet five inches, and the smallest, four feet and a quarter of an inch."—*Id.*