

Spanish women have made little use of the facilities offered. In Sweden, women appear to be excluded from the theological faculties, but since a Royal decree of 1870 they have been able to take medical degrees, and from 1873 the legal and philosophical faculties have been open to them. The seven universities of Switzerland are, without exception, open to women; the conditions under which they study vary somewhat in different universities.

#### AMERICA.

All courses and degrees of Canadian universities are, as a rule, open to women on the same terms as men, though in some cases they study for medical degrees in separate medical schools. The colleges of the various universities do not generally possess boarding accommodation for the students, who reside in boarding houses approved by the college authorities.

It is impossible at the end of a general article to do more than give one or two salient facts in reference to the higher education of the women of the United States. The report for 1899 of the Commissioner of Education states: "The barriers to women's higher education seem effectually removed, and to-day eight-tenths of the colleges, universities, and professional schools of the United States are open to women. . . . The obtaining of a collegiate education gives the women more ambition to enter a profession, or if they decide to marry, it is stated that—'The advanced education they have received has added to their natural endowments, wisdom, strength, patience, balance, and self-control . . . and that in addition to a wise discharge of their domestic duties, their homes have become centres of scientific or literary study or of philanthropy in the communities in which they live.'"

The number of women undergraduate and resident graduate students in the colleges of university standing in the United States in the year 1900-1 was very nearly 47,000, and of these about 21,500 studied in colleges side by side with men. During this year 5050 degrees were conferred on women, nearly half as many as were gained by men, viz. 11,463.

Such are, in the barest outline, the leading facts as to the attitude of the more important countries towards the higher education of their women. The reader who desires more detailed knowledge should refer to the following sources of information, upon which the writer has largely based his conclusions:—"Handbook of British, Continental and Canadian Universities, with Special Mention of the Courses Open to Women," "Supplement to ditto, for 1897," by Dr. Isabel Maddison (New York: the Macmillan Co.). "Educational Systems of Great Britain and Ireland," by Graham Balfour (Oxford: Clarendon Press). "Education in the Nineteenth Century," edited by Dr. R. D. Roberts (Cambridge: University Press). "Growth of Educational Ideals during the 19th Century," by Sara A. Burstall (*The School World*, 1902). "Englishwoman's Year-Book, 1903" (Black). "Annual Reports of the Department of the Interior," by the Commissioner of Education (Washington: Government Printing Office).

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#### CAVE EXPLORATION IN IRELAND.<sup>1</sup>

HERE is little doubt that the visit, a few years back, of the enthusiastic M. Martel, whose "Irlande et Cavernes anglaises" forms such pleasant reading, did much to rouse new interest in Irish caves. Dr. Forsyth Major soon after examined the Irish fossil Mammalia in the Dublin Museum of Science and Art, where Dr. Scharff was at the same time summarising his researches on the origins of the European fauna; on this question the pre-Glacial and post-Glacial Pleistocene remains naturally throw a considerable light. Mr. R. J. Ussher, already distinguished by his published work on southern caves, was fortunately again willing to devote his time to exploration. Circumstances were thus favourable to the formation of a committee,

<sup>1</sup> "The Exploration of the Caves of Kesh, County Sligo, being the First Report of the Committee, consisting of Dr. R. F. Scharff (chairman), George Coffey, Prof. Grenville A. J. Cole, R. J. Ussher, and R. Lloyd Praeger (secretary), appointed to Explore Irish Caves" (*Trans. Royal Irish Academy*, vol. xxxii. sect. B, part iv.). Pp. 46 and 3 plates. (Dublin, 1903). Price 2s.

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which, aided by grants from the Royal Irish Academy and the British Association, has examined certain caves near Ballymote, in the county of Sligo, and is actively engaged on others near Edenvale, in Clare.

The present report is a well edited quarto paper, with several illustrations. Mr. George Coffey, keeper of the collection of Irish antiquities in the Dublin Museum, deals with the traces of human occupation, and, like most of the contributors, has personal knowledge of the caves. The geological section is greatly strengthened by the visit of Mr. G. W. Lamplugh to Keshcorran, and his association as joint-author in the report. Messrs. A. S. Kennard and B. B. Woodward describe the Mollusca, and are known as specialists in this comparatively unworked branch. Mr. E. T. Newton, F.R.S., has identified the remains of birds, while Prof. D. J. Cunningham, F.R.S., describes the scanty human bones. In work where wide deductions may be founded on a single fragmentary relic, this specialisation among the contributors cannot be too highly praised.

Mr. Ussher's general description provides an interesting introduction to the detailed essays. Messrs. Cole and Lamplugh then show that the caves depend for their form on the joint-planes in the massive limestone, and that they were excavated by solution in pre-Glacial times. Glacial detritus then became banked against the slope, and crept into the caves from their mouths. As the ice melted, characteristic mounds of similar material were deposited in the lowland below Keshcorran.

A good part of the deposit within the caves is derived from the solution of the limestone, and includes characteristic bipyramidal crystals of quartz. A spicular crystalline material, mingled with the calcareous tufa, affecting polarised light, and soluble in acids, has unfortunately so far eluded determination. The possibility of the discovery of pre-Glacial remains in such caves in Ireland is pointed out.

As Mr. Ussher indicates, in commenting on Mr. Newton's list of the bones of birds from the caves, the smew, the grey plover, and the little auk are now rare inland, even in winter; the discovery of their remains has therefore some bearing on the climate during their occupation of Keshcorran. Dr. Scharff, in his account of the mammals, identifies the Arctic lemming, not previously known in Ireland. The remains of horse, obtained, with one exception, from the upper stratum of the principal cave that was examined, show that "horse-flesh probably formed one of the principal articles of diet of the cave-men." The traces of the mountain or Irish hare, the true *Lepus timidus* of Linné, indicate a larger animal than that now prevalent in Ireland. Bear (*Ursus arctos*) is represented by a fine left ramus of a lower jaw and very numerous remains. The distribution of the bones of all these animals is easily realised from the small maps provided, on which those found in the upper stratum are indicated separately from those in the lower.

Mr. George Coffey considers that man's occupation of the caves does not date back to a very remote period. Charcoal is frequent in the upper layers, and its distribution, together with the objects found, suggests a brief occupation of the caves in Neolithic times, and a more prolonged settlement when bronze and iron were both common. This latter occupation seems to have been as recent as the eighth to the eleventh century of our era, and Mr. Coffey ingeniously pictures the bear as responsible for the general avoidance of the locality in earlier times.

Mr. R. Lloyd Praeger, now editor to the Royal Irish Academy, summarises the results, and his detailed plan and the illustrative plates are worthy of the body which has undertaken their publication.

G. A. J. C.

#### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

PROF. A. G. BOURNE, F.R.S., professor of biology at the Presidency College, is to take up the duties of Director of Public Instruction, Madras.

MR. H. J. MACKINDER, lecturer in economic geography at the London School of Economics, has been appointed director of the School in succession to Prof. W. A. S. Hewins, who has resigned the post.