DR. JOHN SATTERLY has been appointed lecturer in physics at the University of Toronto.

MISS CARRIE M. DERICK, who has been acting-head of the department of botany at McGill University, Montreal, for two years, has been appointed professor of morphological botany. She is the first woman who has been made a full professor in a Canadian university.

DISCUSSION AND CORRESPONDENCE

OBLIQUE ORIENTATION OF MAPS AND HALF-TONES

IT is a well-nigh universal custom of cartographers, in constructing maps on the orthogonal, conic, or any other projection with converging meridians, to draw the central meridian straight in each case and place it parallel to the lateral edges of the paper, except when dealing with small areas considerably elongated in a direction oblique to the meridians, such as Manhattan Island or some portions of the coast. In recent years, however, there have appeared in scientific literature quite a number of sketch-maps of the eastern United States with the central meridian inclined several degrees to the perpendicular, without any apology or explanation. One of the latest examples is the map of the chestnut-bark disease on page 420 of SCIENCE for March 15, 1912.

Evidently the persons who have submitted such maps for publication simply took base-maps of the whole United States and cut them parallel to the edges without taking the trouble to orient them in accordance with the cartographic principle above mentioned, and the result is rather offensive to the eye of the geographer. In the case mentioned less than half the original base-map was used, with the result that even the western edge of the published map is inclined a little to the left, and the central meridian is about 10° out of plumb. (There is a correctly oriented map on page 406 of the same issue of SCIENCE.)

Of course if the meridians were shown on such maps their curvature (in some of the projections commonly employed) would still reveal the fact that part of the original had been cut away, even if the central meridian of the part used were placed as nearly upright as possible; but on the maps in question the meridians are not shown, and there are no north-and-south lines long enough to have any perceptible curvature. Neither is there any horizontal lettering that had to be kept in the same position when the map was trimmed; and even if there was a legend in one corner it would be a simple matter to cut it out and place it in a new position.

A somewhat similar disregard for appearances is often exhibited by persons who use half-tone illustrations. It goes without saying that a rectangular photograph should have its horizon (if any) and all its vertical lines parallel to its edges, unless there is some special reason for treating it otherwise; but photographs several degrees out of plumb are very often published in text-books, scientific reports and magazines, even in some magazines which seem to take pride in the quality of their illustrations.

The principal cause of this rather annoying condition is probably in many cases too much division of responsibility. A traveler who makes photographs, especially if he is working for some institution which pays his expenses and furnishes the photographic material, often has them developed and printed without his personal supervision, by some human "machine" who treats all the views alike, no matter if some of them are a little out of plumb, as is almost certain to be the case, especially with snap-shots. When the time comes to supply illustrations for a manuscript the average author perhaps looks over his negatives, or a list of them, and gives orders for prints of certain ones, without noticing that some might be improved by judicious trimming, either to make the horizon level or to cut out superfluous portions. Then the editor, even if he notices that some of the prints need trimming, may be too busy to attend to it, or more likely not equipped with suitable apparatus, so he passes them on to the engraver, who naturally reproduces each picture just as it is, in the absence of instructions to the contrary.

The publication of such "eye-sores" can be so easily prevented by either author, editor or engraver that it should not be allowed to continue any longer. Of course in some cases, as in views of lakes and rivers, there may not be any distinct vertical or horizontal lines to guide the trimmer; but in such cases one may sometimes get his bearings by remembering that any point and its reflection in a body of still water are always in the same vertical line, except in the case of objects (such as birds) moving rapidly from the observer's right to left, or *vice versa*, and photographed with a focal-plane shutter traveling vertically.

Roland M. Harper

University, Ala.

Another Sex-Limited Character

To the Editor of Science: From work done this spring on the inheritance of mammæ in swine, the writer has apparently discovered a new sex-limited character in the behavior of rudimentaries. These rudimentaries are the ones located low on the scrotum of the male, and well to the rear on the inside of the thigh of the female. The method of inheritance corresponds to the appearance of horns in Wood's crosses in sheep.

The males used by the writer both possessed rudimentaries on the scrotum and were heterozygous in nature if the interpretation is correct. Two ages of sows were used, gilts or sows just turned a year old, and sows that had just become two years of age. The results are depicted in the following table, the symbols being as follows: *R* equals factor for presence of rudimentary, *r* equals absence of same. *RR* equals rudimentaries in both sexes, *Rr* equals presence in male and absence in female, and *rr* equals absence in both sexes.

In the second table the deviation of the actual from the theoretical is wider than the writer would like, but is scarcely significant. The number of gilts are only seventeen and the average of pigs per gilt is less than with the sows. Both of these factors should complicate the results as to chance. Since there is no appearance of rudimentaries where they are not expected the writer feels that the theory is justified in spite of the deviations.

Sows mated to old boar (*Rr*)

Gametic Composition Sows	No. Sows		Boars		Sows	
			Absent	Present	Absent	Present
RR	5	Expectation	0	26	11	11
		Actual	0	26	14	9
Rr.....	9	Expectation	9	27	36	12
		Actual	11	25	34	14
rr	18	Expectation	46	46	84	0
		Actual	48	45	84	0

Gilts mated to young boar (*Rr*)

RR	4	Expectation	0	13	8	8
		Actual	0	13	13	4
Rr.....	5	Expectation	5	15	21	7
		Actual	7	13	18	10
rr	8	Expectation	19	19	23	0
		Actual	23	15	23	0

The gilts are from the sows listed in the first table and thus there are available three generations for study. The gametic composition assigned the gilts as a result of their behavior in breeding is confirmatory in every case of the composition assigned the sows.

The writer is not dogmatic in his interpretation and welcomes suggestions that may help reconcile the slight differences present.

Edward N. Wentworth

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Scientific Books

Phylogeny of the Echini with a Revision of Palæozoic Species. By Robert Tracy Jackson. Memoirs of the Boston Society of Natural History, Vol. 7. Boston: Printed for the Society with aid from the Gurdon Saltonstall Fund, January, 1912. Quarto, 491 pages with 256 text-figures and 76 plates.

The discovery of the actual phylogeny of any group of animals involves not only the combined study of the morphology and development of those animals as they exist to-day, but also the more difficult and laborious study of their fossil remains. The true phylogenist