

citrons, drupaceous and pomaceous fruit, as well as vegetables.

In all cases where plants are sent for registration, specimens of flowers, foliage, fruit, root, tuber or seed must accompany the application. All vegetables must be accompanied by a given amount of seed (to be determined) to be preserved for purposes of noting the duration of cultural varieties, the influence of climate during any series of years or in any locality. A further purpose of the seed shall be to grow plants for purposes of identifying the sort.

#### ENDS SOUGHT.

1. To discourage the duplication of names, and the re-naming of old sorts for commercial purposes.

2. To form a National herbarium of economic plants, which shall be made up largely of type specimens.

3. To simplify the matter of nomenclature.

4. To aid the student of varieties as well as of variation of plants under culture.

5. To secure the originator of a truly valuable variety some reward for his labor, the same as is now accorded the inventor.

The incorporation of such a clause (No. 5) will undoubtedly secure the hearty coöperation of all plant breeders, nurserymen and seedsmen, and this coöperation we must have in order to advance the scientific ends sought.

It is further proposed that this central bureau be made a part and parcel of the present Division of Pomology of the United States Department of Agriculture. A very valuable nucleus for the beginning of such work is had in the fruit models now in the museum of that department.

Each person interested in this matter will kindly formulate his ideas on the subject and send to some member of the committee who will put them in such form that a bill may be drafted at an early date and

presented before Congress. The idea in having the members of the committee so scattered is to get the needs of the several sections of the United States as well represented as practicable. It is hoped that each one interested will lend hearty coöperation in the matter.

#### CURRENT NOTES ON PHYSIOGRAPHY.

##### PHYSICAL FEATURES OF MISSOURI.

THE current annual volume of the report of the Missouri Geological Survey contains an essay on the physical features of that State by C. F. Marbut (Vol. X. 1896, 14-109). The general upland of the State, bevelled obliquely across the nearly horizontal strata, is explained as a peneplain produced by subaerial erosion that continued into Tertiary time; the peneplain now being dissected in consequence of a warping uplift of middle or late Tertiary date. Apart from the narrow valleys by which much of the upland is dissected, the most notable features of the State are the escarpments that are formed on the retreating edges of the harder strata. A number of these are described, mapped and figured. The most important are the Bethany escarpment, formed on the resistant members of the upper coal measures in the northwest corner of the State; the Burlington escarpment, on the Burlington limestone in the southwest; and the Avon, Crystal and Burlington escarpments on a series of hard strata near the confluence of the Missouri and the Mississippi, below St. Louis. The lower ground that spreads out in front of an escarpment is called a platform; the upland, to which the escarpment rises, descends again in a back-slope or structural plain. The relief form included by the back-slope and the escarpment is called a ridge; the special term, *cuesta*, might be introduced to advantage. The drainage system of the State is discussed at some length, with special reference to the origin of incised

meanders. A brief and elementary presentation of the problems here discussed elaborately would be very serviceable to the schools of Missouri.

#### THE GLACIERS OF NORWAY.

Two previous notes on Norwegian essays by Richter, of Graz, have been given in these columns. His latest article concerns the Norwegian glaciers (Hettner's *Geogr. Zeitschr.* II., 1896, 305-319), a subject on which he is particularly well qualified to write after his minute studies of the glaciers of the eastern Alps. The Folgefond highlands have about a sixth of their area ice-covered; this part being comparatively smooth, while the rest is much more dissected. Hence it is argued that the inactive ice sheet has been protective of the highland surface. Richter places the snow line here at 1,450 met., dissenting from the estimate of 1,025 by Sexe. The descending glacial branches from the highland ice sheet vary in shape according as they form broad ice paws in the high-level, shallow, upland valleys, or long, steep, slender ice tongues in the deep fiord valleys. The Folgefond has only two or three glaciers of the second class, and twenty or thirty of the first. These two classes should not be paralleled with glaciers of the first and second order in the Alps. The highland from which the Jostedal glacier descends, for which Richter suggests the name Jostefjeld, possesses a number of round and peaked summits (1,900 met.) that rise above its general level (1,600). While the latter is ice-covered, the former are bare; and this difference is ascribed to wind action. The snow line here stands at 1,600-1,650 met. Langejeld and Jotunfjeld are also described.

#### LANDSLIPS IN SWITZERLAND.

ONE of the frequent landslips and torrent washes of the Alps occurred last May on the south slope of the Rothorn ridge, near the east end of Lake Brienz. It is de-

scribed by H. V. Steiger (*Mitth. Naturf. Gesellsch.*, Bern, 1896, with illustrations). The Lammbach has here built a large alluvial fan between the villages of Kienholz and Hofstetten, on which it from time to time spreads floods of stone and gravel, fed by landslips in its headwater ravines, where rifts in the upper ground show that a repetition of such disasters may be expected for years to come. The length of the recent stony torrent from its source to the lake is  $3\frac{1}{2}$  k.; its breadth where widest near the lake, 120 m.; its thickness at the same place,  $2\frac{1}{2}$ -3 m., increasing up stream to 4 m. The advance of the wash was at a variable rate, sometimes so slow that the grass in front of it was saved by mowing. On escaping from the incised upper valley, the torrent turned sharply to the right on the lateral slope of the fan. Its spreading lower course is well shown in a large photo-print. Although even these small slips are of economic importance in a closely occupied country like Switzerland, they are insignificant compared to the colossal Topinish and Simcoe landslides in Washington, described by Russell (*Bull.* 108. U. S. G. S.).

#### HEILPRIN'S EARTH AND ITS STORY.

'THE Earth and its Story,' by Prof. Heilprin, of the Academy of Natural Sciences of Philadelphia, is a 'first book of geology' (Silver, Burdett and Co., Boston, 1896, 266 pp.), in which there is a decided physiographic flavor, thus giving much support to the contention of the report of the 'Committee of Ten' that geology proper—the study of the Earth in relation to time—may be well left over to collegiate years, while physiography supplies the natural preliminary training in the high school. The book is simply written, and its chapters follow a well-chosen order. The illustrations are as a rule good, but in some cases there is here, as in many recent books, an example of the too great confidence in 'process' reproduc-

tion of photographs. The upper half of Plate 20 reduces Holmes' drawing of the shore lines of Lake Bonneville, from Gilbert's monograph; the lower half represents the floor of an extinct lake in the Swiss valley of Engelberg, from a photograph; and the first is distinctly more educative than the second. The Delaware and Grand Rivers, Plate 16, are not successful reproductions; good drawings would be more instructive, even if less accurate than the original photograph; but good drawings cost too much nowadays. Brevity of treatment in a number of passages calls for the aid of a good teacher before the student will understand the problems discussed.

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#### CURRENT NOTES ON ANTHROPOLOGY.

##### AMERICAN GAMES AS EVIDENCE OF ASIATIC INTERCOURSE.

IN the Internationales Archiv für Ethnographie (Bd. IX., Supp.), Dr. E. B. Tylor returns with fresh zeal to his ancient contention that the presence of two games so much alike as *parcheesi* in India and *patolli* in Mexico shows intercourse between the continents before the time of Columbus.

This betrays a regrettable misconception of the principles of ethnology as now adopted by its foremost students. Games are alike because men are alike the world over. The same similarity extends to myths, social constructions, laws and arts. That Lewis F. Morgan, forty years ago, should insist that the Iroquois of New York learned their totemic system from East Indians was pardonable in that day. Now it scarcely would be.

Dr Tylor should also study his ethnography closer. The Tarahumaras are not a distant people of an alien language' to the Aztecs, but closely related and speaking a tongue of the same Uto-Aztecan stock. That is why they call the game *patole*.

#### RACIAL STUDIES IN SWITZERLAND.

IN the first number of the new Swiss 'Archiv für Volkskunde,' Dr. Rudolph Martin, of Zurich, urges a complete and careful study of the living adult population of Switzerland, "in order to determine what types represent pure varieties, and what others indicate hybrid forms."

He proposes that the observer should use only a few simple implements, an anthropometer and a calliper, costing together about 85 francs. These, he suggests, could be provided by a society and loaned to observers who would find it inconvenient to purchase them.

His paper is supplemented with blank forms, showing what observations are desirable. These give the individual's name, age, birthplace, etc.; then his measurements, 28 in all; and his descriptive criteria, color of hair, eyes and complexion, shape of head, face, nose, etc. These items he believes would be ample for the purpose.

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#### SCIENTIFIC NOTES AND NEWS.

DR. EMIL HEINR. DUBOIS-REYMOND, professor of physiology in the University of Berlin, died on December 26th, at the age of seventy-eight years.

THE Emperor of Germany has conferred upon Dr. Roux the Royal Order of the Prussian Crown of the second class, which is said to be the highest decoration in his gift. It will be remembered that this order was conferred upon Pasteur some two years ago and declined by him. The German Emperor has in this case shown tact in conferring the order on one who in many ways is Pasteur's successor, and who it is understood will accept it. Dr. Behring, the discoverer, with Dr. Roux, of the antidiphtheretic serum, has had the Grand Order of the Crown of Italy conferred on him.

THE Czar of Russia has conferred on M. Gérard, director of the Municipal Laboratory,