

is evident that the Miami, Licking and Kentucky rivers were all very much larger streams than Old Limestone, and if we should assume that the section of the Ohio below Cincinnati flowed, in preglacial times, in its present direction, the symmetry which Professor Miller sees in the present arrangement would appear most asymmetric.

I feel sure that a careful field study of the topographic features within a radius of twenty miles from the city of Cincinnati will convince any one of the truthfulness of Mr. Fowke's deductions.

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#### PERMANENT SKIN DECORATION.

THE July-December, 1900, issue of the *Journal of the Anthropological Institute* publishes an abstract (No. 117) of Mr. H. Ling Roth's article 'On Permanent Artificial Skin Marks, a Definition of Terms.' The author distinguishes four varieties, all collectively and rather loosely designated by travelers 'tattooing.'

I. The Tahitian punctured method—practiced also by sailors, soldiers, etc.—by which a design is pricked into the cuticle, leaving a smooth even surface of skin.

II. The Maori chiseled type, produced by an adz-like implement, in addition to the Tahitian pricker, and exhibiting when completed a fine pigmented groove.

III. The West African incised variety—usually, but not always, non-pigmented—wherein deeper and wider grooves are cut—not *tapped*—with a knife, bone or hardwood chisel.

IV. The raised scar ('*cicatrice saillante*') of Tasmanians, Australians, Central Africans, etc., resulting from the continued irritation of the original incision, the insertion of foreign matter and the over-production of reparative tissue lifting the design in welts.

Mr. Ling Roth considers it desirable that the Tahitian word 'tatu' be confined to the first-named process, the native designation 'moko' be recognized for the second; for the third and fourth respectively, the terms *cicatrix* and *keloid* are offered.

This classification, looking toward greater precision in the use of descriptive epithets, is

avowedly based chiefly on the character of the implements used and the method of their employment. The author has, however, overlooked two types as well marked as any of those included, the Dayak and the Eskimo. The former make use of a wooden block upon which the desired pattern is figured in relief. It is transferred to the skin by percussion, the block being pounded with an iron bar. Regarded from the side of its probable descent, this method must be deemed a subvariety of II. Classed by the tool producing it, it forms a distinct variety.

The other and more important omission, the inductive or line tattooing of the Eskimo seems most nearly related to type I, the latter form indeed occurring side by side with it. In the central regions, according to Dr. Boas, a needle and thread covered with soot is passed under the skin, the point of the instrument also being rubbed with a mixture of the juice of *Fucus* and soot or gunpowder. ('Central Eskimo,' p. 561.) The two processes recur more or less intimately associated over the greater part of the Eskimo habitat. The writer of this note would suggest for this inductive variety (type V.) the use of the Central Eskimo word 'kakina' (pronounced *kakeena*)='tattoo marks,' a term derived from the verb 'kakiva'='pierces it,' as in sewing, so as to make the point appear again on the same side. (See Rink, 'Eskimo Tribes,' p. 117.)

The main objection to the differentiation of these two types (II. b and V.) is the difficulty of distinguishing between II. a and II. b, and between I. and V., when neither the operation nor the implement has been observed.

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#### MAGAZINE ENTOMOLOGY.

TO THE EDITOR OF SCIENCE: Columns open for attack have surely room for defense—wherefore permit me to say to the critical Mr. Smith, of New Brunswick, that I fear he does not quite understand the article he criticises. The paper in *McClure's* for September is part of a book not meant in the least to be scientific, entomologic, or any other 'ologic, but simply to set down things seen, and heard, and done, by two