

Selected Article.

On the Relation of Physiology, Pharmacology, Pathology, and Practical Medicine.*

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THE desire for knowledge which is common to the lower animals and man, savage or civilized, and has induced members of this congress to come from the ends of the earth in order to gain information, must have led primitive man from the earliest times to study the great problems of physiology, the nature of life, of growth, of reproduction, and of death, as well as to notice the connection of the latter with mechanical injuries, such as the wounds inflicted by clubs and spears or by the teeth and claws of wild beasts.

Next to the problems of physiology come those of pharmacology, by which I mean the poisonous or remedial action of various substances mineral, vegetable, or animal. A knowledge of this subject is found even among the lowest savages, and is of the greatest use to them, for it enables them, on the one hand, to avoid eating things which may cause discomfort, pain or death, and, on the other, to obtain food by poisoning waters and thus catching fish, or by poisoning their arrows to kill game which would otherwise escape. Closely associated with the knowledge of the poisonous is that of the curative powers of herbs, and it is possessed by animals as well as man, for cows avoid noxious plants, and dogs will every now and again eat grass apparently as medicine. Primitive peoples use various substances as remedies in disease, with more or less success, and one of the most extraordinary points in their practice is that they seem to some extent to have forestalled the newest researches on venins, anti-venins, and organotherapy, for in Africa the Bushmen are accustomed to drink the poison of venomous snakes as a prophylactic against their bite, and the Hausas prevent hydrophobia by killing the mad dog and making the man it has bitten eat its liver.

The occurrence of death from wounds or poison is intelligible even to a savage, but when illness and death occur independently of these,

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