

as in religion, mythology, law, art, etc. In primitive conditions man's activities are powerfully influenced by his geographic environment, but this diminishes as culture increases. The proper aim of ethnography is not to search out relations of blood, but similarities of culture. Above these stand the universal traits of human psychology, which can be defined only by careful collection and comparison of ethnic details. Degenerations and deteriorations in culture do not belong of right to ethnologic study, because this has as its purpose the definition of evolution or the advancement of the species. He refers to Post, Bastian, Ratzel and Andree as the best representatives of this new school of ethnology.

It is proper to add that their opinions have not yet received universal, scarcely general, acceptance from other nations.

MENTAL VERSUS PHYSICAL IN WOMAN.

THERE is a prevailing impression that women in the higher classes of civilized society are less desirous and less capable of having numerous offspring than those of the lower classes and ruder conditions. In other words, that there is an antagonism between the intellectual culture of woman and her reproductive powers. One or the other must suffer in her education.

The sociological importance of such a fact, if it is one, can scarcely be over-estimated. Were it proved, and no remedy be found, it would mean the gradual extinction of the most cultured classes in the community. The question was presented by me before the anthropological section of the Academy of Natural Sciences, Philadelphia, and an abstract published in the *Medical News*, January 18, 1896, under the title 'The Relations of Race and Culture to Degenerations of the Reproductive Organs and Functions in Woman.' I shall be glad to send a copy to any reader of SCIENCE who wishes one.

D. G. BRINTON.

NOTES ON AGRICULTURE AND HORTICULTURE. (IV.)

TREATMENT OF PEACH ROT AND APPLE SCAB.

DELAWARE is a small State, but large in its peach industry. The leading enemy to the peach crop, the fruit rot, naturally is a subject that demands the attention of the Station Mycologist, Prof. F. D. Chester. For several years he has been testing various fungicides for the rotting of the fruit, and the last bulletin (No. 29), recently issued, gives both the results of the experiments and general directions for spraying. It is recommended to remove and burn all dried or mummified fruit from the peach trees in winter and to spray the trees in early spring with bluestone solution. When the fruit buds begin to swell spray with the Bordeaux mixture and again just before the buds open. Spray again with Bordeaux when the bloom is falling, and add a little Paris green to keep off the curculio. About two weeks later the same treatment is repeated. As the Bordeaux coats the fruit with the lime mixture, for the last two sprayings copper acetate, a colorless solution, is employed. A tenfold increase of sound fruit was obtained by this process at a cost of about twelve cents per tree.

The treatment for apple scab was the Bordeaux mixture, to which London Purple had been added and applied five times to the trees. The good fruit was doubled by this treatment, while the general health of the apple trees was much improved.

LEGISLATION AGAINST WEEDS.

THE division of Botany U. S. Department of Agriculture has just issued a bulletin (No. 17), prepared by Mr. L. H. Dewey, "in response to a growing demand among agriculturists and Legislators for data which will enable them to prepare laws better adopted for the control of weeds than those now in use." One per cent. of increase in

the crops, which might be obtained by weed destruction without much cost, would amount to \$17,000,000. The passage of proper laws against weeds is important and should be effected with dispatch.

The weed laws are listed as found upon the statute books of the following States: Arizona, California, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Vermont, Washington, West Virginia, Wisconsin. Thus twenty-five States and Territories have laws against weeds. In some States the law is to suppress but a single species, as against Canada thistle in California, Delaware, Kentucky, while other States proscribe fourteen, as in Minnesota and Ohio. The largest proscription is with the Canada thistle, twenty-one out of twenty-five States. Six States legislate against the Russian thistle.

The fact that there is no federal law against weeds is probably because no one species is national in importance, but the Russian thistle may become such if it spreads as it is feared.

The basis for a general weed law is given and includes as a leading feature a commission of which the State botanist shall be the head. It is very important that new weeds shall be recognized and measures taken to eradicate them at once. Legislation for the purity of seeds will do much to check the introduction of weeds through commercial seeds.

BACTERIA IN THE DAIRY.

DR. CONN gives a 'year's experience with *Bacillus* No. 41 in general dairying' in the Annual Report of the Storrs Experiment Station of Connecticut. This germ can produce a pleasant flavor in butter, if favorably situated in the cream, and is feasible in the hands of ordinary dairymen. The flavor

thus produced is retained by the butter for a long time. It is not proved that this bacillus is the best possible one for this purpose, but Dr. Conn thinks the method is at least correct in principle and will succeed in practice.

SUB-IRRIGATION IN THE GREENHOUSE.

THE Ohio Experiment Station is taking a lead in the study of irrigation under glass by Prof. W. J. Green. In a recent bulletin the construction of the greenhouse with iron frames and bench tiles is fully shown by engravings, as also the great difference in the size of lettuce grown with sub-irrigation and surface watering, it being twice as large with the former as the latter method. The idea of irrigating below the surface grew out of an attempt to prevent the rotting of lettuce by not wetting the foliage. Sub-irrigation is cheaper than the old method of surface watering; the soil remains in a better condition and the plants are less liable to decay. These results come largely from the soil permitting the air to pass freely through it, besides supplying water constantly to the roots.

GRAPE CULTURE.

SOME of the Experiment Stations bulletins are books and not small ones. Sixty-four pages of close print interspersed with engravings is issued by the Georgia Experiment Station as its bulletin No. 28. The Horticulturist H. N. Starnes does not conceal the intent of the publication, but at the outset states that "no attempt has been made to treat the subject from a scientific standpoint, and as far as possible all technicalities have been avoided, as the bulletin is intended solely for the practical guidance of the inexperienced beginner." The booklet is divided into nine parts, namely, the vineyard, propagation, planting, pruning and training and so on.

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