

## SCIENCE:

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Attention is called to the "Wants" column. All are invited to use it in soliciting information or seeking new positions. The name and address of applicants should be given in full, so that answers will go direct to them. The "Exchange" column is likewise open.

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## SLATE PRODUCTS.

RECOGNIZING the value of prompt publication of statistics, a report from the Division of Mines and Mining, under the charge of Dr. David T. Day, of the United States Geological Survey, is issued as a bulletin by the Census Office. It shows the product of slate during the calendar year 1889, as prepared by Dr. William C. Day, special agent in charge of stone. The bulletin shows also the value of slate, the number of men employed, the wages, and other expenses, and the capital involved in this industry. This statement is exact for the entire country, but is only a brief summary of the more important facts, which will be published in detail in the complete report. The investigation was principally pioneer work. When it was begun, eight months ago, there was not even a good list of the producers of slate, and no investigation so complete as even the brief results here presented had ever been successfully prosecuted. The total value of all slate produced in the United States in 1889 is \$3,444,863. Of this amount, \$2,775,271 is the value of 828,990 squares of roofing slate, and \$669,592 is the value of slate for all other purposes besides roofing. As compared with the statement of the Tenth Census report of 1880 on stone, the roofing-slate product of 1889 is nearly twice as great in number of squares and in value. A consideration of the slate used for purposes other than roofing appears to have been omitted from the Tenth Census report. The total value of all slate produced in 1889 is more than twice as great as that considered in the Tenth Census. According to "Mineral Resources of the United States, 1888," the total number of squares of roofing slate produced in

that year is 662,400, valued at \$2,053,440. Twelve states at present produce slate. A line drawn on the map from Piscataquis County, Me., to Polk County, Ga., and approximately following the coast outline, passes through all the important slate-producing localities. According to amount and value of product, the most important States are, in the order named, Pennsylvania, Vermont, Maine, New York, Maryland, and Virginia. In Georgia, Michigan, New Jersey, Arkansas, California, and Utah productive operations are of limited extent, and in the case of the latter three States, of very recent date. Inasmuch as in slate quarrying the initial operations are those of stripping and excavating, preliminary to actual output, some time must necessarily elapse before any returns for labor can be realized. For this reason the expenses incurred in Arkansas, California, and Utah exceed markedly the value of the output in those States. The twelve States referred to do not include all those in which merchantable slate is known to exist, since discoveries promising good results for the future have been made in a number of other States, among which may be especially mentioned Tennessee, where operations of production are beginning. The slate quarrymen of the country, and to a considerable extent the firms operating the quarries, are either Welsh or of Welsh descent, many of them having learned the methods of quarrying slate in the celebrated quarries of Wales. The quarries are operated on an average of about 220 days in the year. The idle days are the result of rainy weather and holidays. The first day of every month is regarded as a holiday by the Welsh quarrymen, and no work is ever done by them on Saturday afternoons.

## HEALTH MATTERS.

## The Wearing away of Teeth.

MR. MACLEOD, at a meeting of the Odonto-Chirurgical Society, said, according to the *Lancet*, that, having his attention drawn by a single case, he had been led to examine the teeth of various bag-pipers, and all of them represented wearing away of the cutting edges of the six front teeth, in a greater or lesser degree, varying with the density of the tooth structure and the time engaged in pipe playing. He found on inquiry that, on the average, it took about four years to make a well-marked impression, but that once the enamel edge was worn through the wearing away was more rapid. Every one was aware of the way in which the tobacco-pipe wore the teeth of the smoker, but this was not to be wondered at, the baked pipe-clay being a hard and gritty substance, but that a horn mouth-piece should have such appreciable effect was, he thought, a matter of curious interest. He mentioned, however, that the mouth-pieces suffered more than the teeth, the average life of a horn mouth-piece being twelve to eighteen months, that of a bone or ivory one being about two years. The peculiarity noticed was a crescent shaped aperture on the cutting edge of the front teeth in three localities, namely, between the central incisors and between the lateral and canine on both sides.

## The Deficient Water-Supply of Paris.

It is a matter of surprise, says *The Lancet*, to all visitors of this gay city that the French, who assume to be in most things in the van of all other nations, should be so very backward in their water and sanitary arrangements in general. Each year as the summer returns a notice is published by the Municipal Council of Paris to the effect that owing to a scarcity of drinking water this latter will have to be temporarily replaced by water from the Seine. Although only temporarily, the Municipal Council seem to forget that one single draught of this water may be sufficient to cause death, as it is now generally admitted that river water is the vehicle of the germs of typhoid-fever, cholera, and of many other epidemic maladies. This arrangement does not extend to all Paris at the same time, but three are four arrondissements in succession are submitted to it for a term of twenty days. The excuse for this lamentable state of things is that the public coffers will not admit of the outlay necessitated by the arrangements for bringing spring water into the city, and yet millions are spent on less necessary purposes. It is all very well to open boulevards and squares, and to plant trees in all directions, but water is as indis-