SCIENCE:

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Communications will be welcomed from any quarter. Abstracts of scientific papers are solicited, and twenty copies of the issue containing such will be mailed the author on request in advance. Rejected manuscripts will be returned to the authors only when the requisite amount of postage accompanies the manuscript. Whatever is intended for insertion must be authenticated by the name and address of the writer; not necessarily for publication, but as a guaranty of good faith. We do not hold ourselves responsible for any view or opinions expressed in the communications of our correspondents.

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-

pensable as air. M. Ferdinand Duval, late Prefect of the Seine, in writing on the subject made the remark that water should not only be in sufficient quantity but in abundance, and a city in which the inhabitants have only a very limited supply of water at their disposal he compared to a ship in distress. It appears that the senate has just voted the bill for supplying Paris with drinking-water from the Vigne Springs in the Avre Valley. It will be four years, however before Paris feels the benefit of this decision, as the works cannot be completed before that period.

International Congress on Alcohol.

The International Congress on Alcohol will hold its sittings in Christiania, Norway, on Sept. 3, 4, and 5; and the programme, as given in *The Lancet*, gives promise of highly interesting and, we trust, fruitful discussions. The report of the president of the permanent committee (Dr. Forel, of Zürich) will review the work achieved in lessening the evils of drunkenness between 1887 and 1890, after which papers will be read as follows: "The Means which have Proved most Effective in Norway for the Diminution of Alcoholism;" "The Results of the Gothenburg System;" "The Alcoholic Question in Relation to the Rearing of the Young;" "The Degeneration of Indigenous Tribes through the Spirit Trade;" and "Freely Diluted Alcoholic Beverages, or, in other words, Moderation as a Means of Combatting Intemperance." Other papers on branches of the drink question will be read by Dr. B. W. Richardson, Professor Böhmert, Dr. H. Von Hebra, Dr. H. Kurella, and other distinguished promoters of the temperance cause. Many non-medical or lay friends of the same social reform will take part in the proceedings, the attractiveness of which will be materially enhanced by an exhibition of writings, illustrations, and various other objects, bearing directly or remotely on alcoholism in all its ramifications. A similar exhibition was held at the last meeting of the Congress (at Zürich), and proved an excellent adjunct to the discussions.

LETTERS TO THE EDITOR.

**** *Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

The editor will be glad to publish any queries consonant with the character of the journal.

On request, twenty copies of the number containing his communication will be furnished free to any correspondent.

The Eskimo of Cape Prince of Wales, Hudson's Strait.

(THE substance of this letter was read at the last meeting of the American Association for the Advancement of Science.)

One of the chief troubles to contend with in making notes upon the customs of the Eskimo is their extreme sensitiveness to ridicule, and it is therefore most necessary that you should put on your gravest expression when questioning them. Sometimes this sensitiveness is very interesting to watch. Upon one occasion, when employing my favorite Eskimo, Ugaluk, as an assistant in my boat, and telling him to throw out the anchor, he immediately picked it up and carrying it to the bow was in the act of casting it overboard without a rope attached to it. We were just in time to stop him, and naturally laughed, rather immoderately, at which he sat down in the boat and covering his face with his hands remained in that position for a long time, and was too shy to speak to us.

If offended at any time with their own people, or either of my men, they would immediately leave, and, without saying a word, would go home, and for some time they were not to be seen. We sometimes regretted that they could not be offended oftener, for most of them required continual watching when anything movable was about.

One afternoon several men entered our house, and, standing near the fire, refused most positively to go out. Knowing that promptness of action has a good effect upon them, one of them was immediately handled rather roughly, and stumbling, fell as he was bundled out of the door, the others following suit. For a minute we thought there was going to be trouble; the next moment, however, they picked themselves up, and, all turning with smiling faces, said "*Chimo, chimo*," which means "We are friends." I may add that orders to leave our house after this were never disobeyed.

While, as a rule, the Eskimo looks upon the white man as born to do him favors, those met with would sometimes offer payment for our services; and for the burial of an aged relative, who died when his friends were away hunting, one of my men received the valuable gift of about two gallons of blubber, which of course he accepted with many thanks. Nevertheless, if an Eskimo was given an unusually valuable present, he would immediately turn round and ask for the most impossible things, as though he thought you were now in a good humor, and now was the time to get all he could from you.

As far as could be seen, it seemed to be the general belief that all property, especially in the way of food, belonged to everybody in common, and therefore, if you held more than another, it was only because you or your family were physically strong enough to protect it. Few men, of course, would steal from one another when food was plentiful, thereby making enemies for themselves, but, when food is scarce, might is right, and all make note of the position of their neighbors' caches before the winter's snow covers them.

At one time, after a raid had been made upon my storehouse by some rather desperate Eskimo, my trusted friend Ugaluk informed me that his wife had gone to get a share of the plunder. At first we were inclined to harangue him for infidelity, but soon saw he had not the slightest idea it was wrong to receive stolen property. Upon another occasion, under similar circumstances, I induced Ugaluk to help me track the robbers, and, with some trouble, we traced them to a deep gorge, where all we could see was a large hole in the snow. This was the doorway of an igloo ten feet below the surface, which had been covered by continuous drifting of the snow. Into this hole Ugaluk dived, while I remained outside. He soon returned and asked me to follow, which I did upon my knees for some distance, until I found myself in a very dirty dimly-lighted room. Sitting near the lamp was a woman, and by her were three children, these being the only occupants of the place. The woman denied most emphatically any knowledge of the theft, and was not moved in the least when informed that her husband would stand a chance of being shot if he took part in another burglary. Feeling that perhaps after all we were mistaken, we were just leaving, when the woman called us back, and, holding up a small piece of salt beef, said this was all her husband had taken, as unconcernedly as though she had never denied it, and as though he had found it outside our door instead of having done a great deal of damage in securing it.

The Eskimo, of all races, are the most free, and in no case do they consider a man their superior unless he or his family are physically stronger or are better hunters than others. These superior men are treated with little deference, though they are usually sought for in the settlement of disputes, and sometimes act as public executioners. Ugaluk, who had all these qualities, was usually obeyed when an order was given by him, and we were much interested with his story of a comparatively recent execution which he undertook for the good of the community. Walking up to the offender, he held him in conversation for a few minutes, when suddenly, drawing a knife from his sleeve, he plunged it into his breast, and then finished him upon the ground, afterwards carrying his body out upon his kyak and dropping it into the sea. As Ugaluk related his story, in a whisper, he trembled violently, and it was quite evident he was haunted with certain fears.

As in civilized communities, there were several restless individuals living among those we met, who at different times had dwelt in many parts of the coast, one of whom at least had lived far up Fox Channel. These individuals are employed as traders, and evidently are the means of keeping the language intact.

As is well known, work is pretty well divided among these people, the men doing all the hunting and making and repairing implements, while the women take part in everything else, even in the making of boats and building houses, though the more laborious part of this work is performed by the men. When moving to a distant part of the coast, a small pack is put upon each dog, and the men and women divide equally the heavy goods to