

Texas fever in cattle, due to a protozoon parasite of the blood, is endemic, and practically harmless in the south; but when southern cattle are driven northward, and mixed with northern cattle, the latter contract the disease in a form which is rapidly fatal.

The above facts are selected out of many of a similar kind that are on record. It will be generally admitted that a race or species which has long been subjected to a zymotic disease acquires by selection a relatively high degree, if not of immunity, of endurance of the disease.

It does not seem to have been sufficiently appreciated by naturalists that it may be beneficial to a species, in the struggle for existence, to retain the susceptibility to attack while developing the power of endurance, instead of acquiring a total immunity from attack.

When a species or race, thus subject to a mild form of a zymotic disease, meets the territory of a closely-allied species or race, it is evident from such cases as are cited above, that the disease, communicated to the newly-met race, may prove a most powerful agent for destruction, with the result of leaving a new territory open to the invaders.

It has only lately been realised how susceptible insects are to various obscure diseases due to bacteria and fungi. In fact, in my studies of the Coccidæ, I have come across numbers of parasitic fungi, which appear to be wholly undescribed and unknown. Therefore, when one insect supplants another in the mysterious way it sometimes does, it is easy to imagine the factor of communicable disease playing an important part.

The purpose of this note is simply to draw attention to the matter, and to request those of your readers who may witness the supplanting of a native animal or insect by a foreign or invading one, to particularly note whether the former is attacked by any disease.

T. D. A. COCKERELL.

Mesilla, New Mexico, U.S.A., March 9.

### The Caucasus.

It might be out of place to trouble your readers with any lengthy discussion of the many difficulties and snares that beset the path of the transcriber of Caucasian place-names, and of the discrepancies to which they may easily give rise. Nor shall I ask you for space to defend, in any detail against your reviewer's strictures, my own system—or want of system—in dealing with Caucasian nomenclature. In so far as I may have deviated from the principles laid down by the Committee of the Royal Geographical Society, of which I was a member, and adopted by the British Admiralty, the Government of the United States, and other bodies, I am very ready to submit myself to expert criticism or correction.

In these notes, however, my object is not so much personal as general. It is to prevent the confusion of knowledge, and to a certain extent of tongues, which, I fear, must ensue should men of science in search of information about the Caucasus attempt to follow, without some further advice, "J. W. G.'s" summary suggestions.

In the first place, I have to point out that your critic has failed to take into account a circumstance which is, in my opinion, of great importance, and to which, in my preface, I was at pains to call particular attention. The Caucasus, as we all know, is an annexed or conquered country. Consequently its place-names are not Russian, but, in the district with which I deal, for the most part Old Turkish or Georgian. Now scientific cartographers in this country are not, I believe, prepared, wherever and whenever Russia may incorporate an Asiatic district, to substitute for the English forms of the native place-names transliterations from the forms they assume in Russian maps. Such a course has obvious disadvantages. It must obscure the meaning of many names, and give identical names different forms, according as they occur within or outside a political frontier. The question is a recurrent and a difficult one, not to be set aside lightly by an *obiter dictum*, or by an appeal to French usage. Under no circumstances, I must add, are British geographers likely to respond to your writer's implied suggestion by assimilating their system to that in use in France.

"J. W. G." and I agree, I am glad to find, in desiring to induce men of science in quest of accurate information as to the Caucasus, to seek it out from first-hand authorities. He recommends certain articles, printed in Russian, and published in

Moscow and Tiflis periodicals by M. M. Dinnik and Jukoff. I have good reason to believe that a knowledge of Russian is still far from universal, even among men of science. I shall therefore venture to suggest that our countrymen may gain some further assistance from the hundreds of pages devoted to the Caucasus, during the last ten years, in the *Journals of the Alpine Club* and of the Royal Geographical Society. And I would add a few words of caution to beginners. M. Dinnik's paper was written some years ago, when the New Survey was still far from complete, and his own travels did not suffice to fill in the gaps. On some matters, consequently, he may mislead—and has misled—his copyists. M. Mikhailovsky's tables of Caucasian Peaks, Passes, and Glaciers, issued in the Moscow *Zemlevedeniye*, should also be consulted. They are more up to date, and detailed, though he, too, fails in the personal knowledge of the localities essential to graphic and accurate description. Moreover, his spelling of place-names frequently diverges from that of the preliminary sheets of the New Survey, privately communicated to me by the Surveyors, which were my authority.

It is with some surprise that I observe your critic's statement that he has failed to find in my pages any reference to the writings of either M. Dinnik or my friend M. Jukoff. The former, I must confess, has slipped out of my index. But he is referred to in his proper place in the first chapter, and elsewhere. M. Jukoff is in my index, preface, first and many other chapters. I have mentioned both frequently in the *Alpine and Geographical Journals*, and I published a translation of a paper of M. Jukoff's in the latter periodical. As to the map of M. Fournier's, which "J. W. G." cites, it is a geological map appended to a geological diploma essay printed at Marseilles last autumn. It can hardly, I think, be cited as a *geographical* authority.

DOUGLAS W. FRESHFIELD.

The Alpine Club, March 20.

We did not intend our remarks on nomenclature to be strident, and we certainly offered no suggestions, summary or otherwise. We only pointed out some of the inconsistencies inevitable when place-names are not transliterated upon a definite system. The fact that the Caucasian place-names are derived from various languages had not been overlooked; but the rules laid down by the R. G. S. Committee, to which Mr. Freshfield refers, admit the principle in such cases of accepting the spelling of a standard national gazetteer or of official survey maps. Such a method may be philologically defective, but it is geographically convenient. Would Mr. Freshfield recommend a foreign geographer, writing about England, to abandon the recognised names in favour of the forms which may be used locally? To ignore the official spelling in many parts of the Russian Asiatic dominions would be to render the revision of place-names, to use Mr. Freshfield's term, a "recurrent" difficulty, for the people are nomadic, and names come and go like fashions. There is probably no place for which a stronger case could be made out in favour of adopting the spelling of the official maps. We did not imply that the French method should be adopted in England; what we said was that, owing to the variations adopted by Mr. Freshfield, sometimes avowedly for the sake of appearances, it was difficult to find his names in Fournier's map. We did not quote Fournier as a geographical authority. In regard to the two Russian authors to whom we referred, we remarked the absence of reference to their technical papers, instead of to those of general Western compilers, for information respecting the Caucasian glaciers.

J. W. G.

### The Laboratory Use of Acetylene Gas.

IT is evident from Mr. Munby's letter, in your issue for March 25, that he is unaware that atmospheric burners adjusted for acetylene gas are, and have been for some time, articles of ordinary commerce. Up to the present time no satisfactory method has been found by which large and powerful Bunsen flames can be obtained free from smoking, as the mixture of acetylene gas with a small proportion of air is very explosive, and the Bunsen tubes used must not exceed 3-16 inch diameter. Any ordinary Bunsen adjusted for 20-candle coal gas, if not exceeding the bore stated, will be found fairly satisfactory with acetylene, the gas pressure being not less than 5 inches of water; but the best results are obtained from burners rather different in proportions from the ordinary laboratory Bunsen.

Warrington.

THOS. FLETCHER.