

## LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

## Wiltshireite: a New Mineral.

THE dolomite quarry near Binn (Valais) affords such a large variety of grey sulpharsenites, mainly of lead and copper, that a new one is received with much hesitation; but a crystal recently obtained at Binn gives results which leave little doubt as to its independent character. The specimen consists of a number of very small crystals aggregated together in parallel orientations, and a single well-defined image is obtained from several minute end-facets.

The crystal belongs to the oblique system. The zone of pinakoids consists of smooth faces, 201, 302, 101, 001, and 101, which give good images. Two other important zones are placed symmetrically on opposite sides of the symmetry-plane; they show the forms 522, 211, 111, 122, 011, 111, and others. The faces, placed vertically, are striated parallel to their zone-axis, and give very imperfect images, save when they are obtained across the zone; the forms are 100, 310, 320, 010, and some others. The elements adopted are:  $100:001=79^{\circ} 16'$ ;  $100:101=48^{\circ} 47\frac{1}{2}'$ ; and  $011:001=46^{\circ} 25\frac{1}{2}'$ .

I propose for it the name wiltshireite, after the late Prof. Wiltshire, who was a most generous benefactor to the Cambridge museums of mineralogy and of geology.

Cambridge, August 13.

W. J. LEWIS.

## The Nomenclature of Radioactivity.

A FEW years ago I wrote to NATURE (vol. lxxvi., p. 638) protesting against the proposal of Prof. Boltwood to call the member of the uranium-radium series, which he had just discovered, by the fanciful name of "ionium" instead of by a name based upon the system of nomenclature started by Sir William Crookes and extended by Prof. Rutherford. Prof. Rutherford replied (p. 661) that the time had not yet come for the establishment of a definite system of nomenclature, but that he hoped that some day "physicists and chemists would meet together to revise the whole system." After such a decision from the first authority on the subject I could do nothing but collapse; but there are three reasons why the present moment seems to me suitable for a renewal of vitality.

First, Prof. Rutherford said that he thought it undesirable (I did not agree with him) to fix a method of naming until nearly all the products to be named appeared to have been discovered. I believe it is about two years since the last new member was added to any of the series previously known. Second, there is at hand an admirable opportunity for the meeting together of physicists and chemists which he suggests—the congress at Brussels next month. Third, it appears to me that reform has been made urgent by a particularly disastrous attempt at unsystematic nomenclature. In a recent number of the *Comptes rendus* Sir William Ramsay, after determining more certainly the molecular weight of radium emanation by a beautiful experiment, and finding the result to confirm his suspicion that this substance belongs to the group of inactive gases, proposes that it should henceforward be called "niton." (By a curious oversight, he suggests that the symbol should be "Ni," which is, of course, already appropriated.)

The purpose of a systematic nomenclature is to express relations between the objects named. So long as elements were regarded as wholly independent objects, the practice of naming them, as if they were dogs, on purely sentimental grounds was more or less justifiable, for there were no relations between them to express. As soon as the first general relation between the elements, the periodic "law," was discovered, a systematic nomenclature was desirable, and some feeble steps towards it were taken. With the discovery of the radio-active elements, the whole

importance of which lies in their relations to each other, a complete system becomes a necessity.

Let me take an analogy. If Sir William Ramsay takes a house in the country, where buildings are scattered at random, nobody will care what he calls it. But if he takes a house in the street of a city and proposes to replace the number on the door by "Bellevue," or "Glencoe," or "Chatsworth," or any other of the names dear to lodging-house proprietors, he will meet with scant sympathy from the postal and municipal authorities. His case will not be much better if, like Prof. Boltwood, he builds a house where there was none before, instead of merely improving one that existed already.

The only defence Sir William Ramsay can offer for his proposal is that it is in accordance with chemical, if not with radio-active, nomenclature. If this were true, the question would arise whether the chemical or the radio-active properties of the element were more important; I cannot conceive that anyone would doubt the superior interest of the latter. But it is not true. The name which he proposes, interpreted according to chemical usage, suggests (1) that the substance is non-metallic, and (2) that it is not an inactive gas. It suggests (1) because it ends in -on; it suggests (2) because the root is Latin. The only names of elements ending in -on which are not those of inactive gases—carbon, boron, silicon—all have Latin roots; all the names of inactive gases have Greek roots. By the choice of a Latin name, radium emanation is placed in the former and not in the latter group. Surely, also, when in the names of the argon group we have a rare instance of terms, invented recently, which are linguistically correct, it is a crime to spoil the group by the intrusion of one of those philological barbarities the toleration of which does so little credit to the general intelligence of men of science. I do not know whether Sir William Ramsay has been troubled by the fact that the most familiar Greek word for "bright," *ἀγρός*, is clearly inadmissible, but I am sure that any classical scholar could provide a suitable synonym.

I am not going to propose a system of radio-active nomenclature, for, if I succeeded in attracting any attention, people would then confine themselves to abusing my system, and not to considering whether any system is desirable. But I should like to point out the faults of the present method, and direct attention to two possibilities for a new method.

The faults of the old system are (1) that it does not permit of interpolation; (2) that it separates systems which are now known to be connected, such as uranium and radium; (3) that it lays far too much stress on the accidental fact that some of the elements are gases at ordinary temperatures; and (4) that it is anomalous in making X precede A.

The first possibility for a new system is to order the elements by numbers, and not by letters. Such a system admits of indefinite interpolation; between 1 and 2 there can be interpolated, first, the 9 terms 1.1-1.9, then the 90 terms 1.01-1.99, and so on. The second possibility lies in the fact that the rays emitted by the elements are distinguished by single letters, so that the radiation from an element might be expressed by the terminations -o (for no rays), -a (for  $\alpha$  rays), -ob (for  $\beta$  and  $\gamma$  rays only), -ab for all kinds of rays. Of course, the form "radiob" would have to be avoided on account of prior rights (NATURE, vol. lxxii., p. 79), and modification would be needed if the additional termination -g were rendered necessary by a discovery that  $\beta$  and  $\gamma$  rays could occur separately.

A scientific system of names need not displace completely such well-known terms as "radium" any more than the appropriate name, according to the excellent system of organic chemistry, has displaced that of (say) "indigo." But I maintain strongly that every radio-active element ought to have a name discoverable from its properties, and a name from which, conversely, its properties may be discovered. Such a plan would not help greatly those who are so accustomed to radio-active work that the association of a fanciful name with definite properties is intuitive, but it would be an inestimable boon to those who now, when they hear of "mesothorium,"