

Stevens then goes on to describe similar stones found in Sweden known as "elf-stones," which are still held in superstitious veneration and receive offerings to ward off sickness. He adds: "I venture to suggest, therefore, that some further attention be given to this subject, before we jump to the conclusion that this foreign block of stone was an impost." (Jottings on the Stonehenge Excursion, August 1876, pp. 133-138.)

E. HERBERT STONE.

The Retreat, Devizes.

**The Word "Scientist" or its Substitute.**

WHEN literary gents, like Sir Clifford Allbutt, Prof. D'Arcy Thompson and Sir Israel Gollancz, come forward in defence of *scientist* and Sir R. A. S. Paget, an expert in vocal sounds, in the most cold-blooded manner possible, says that he would *ist* everybody, it were time that we illiterate scienicers ranged ourselves solidly with Sir Ray Lankester, ever a defender of the faith, proclaiming that we will not have truck with the would-be debasers of lingual beauty.

If I had ever favoured the term—I hate it—I should cease from using it, if only after listening to the High Commissioner for Australia, at the Imperial College of Science (not yet Scientists) dinner, a few days ago. Replying for the guests, at the close of his speech, he referred to the story of two men talking together and one saying—"There will be nothing to laugh at fifty years hence." "What, will there be no scientists!" came the reply. Let us hope there will not be any. The story is a good exemplification of our form in the public eye.

The real men, those who do things—bakers, butchers, builders, boxers, grocers, even green-grocers—all have names ending in *er*. The terminal *ist* is reserved for theosophists, thaumaturgists, even for those who pretend to be but are not chemists, only bits of the same. So far, indeed, is objection taken to chemist that a wag among them has proposed to substitute *chemor*, not chemor-ist, be it noted. The German *chemiker* was long known as superior to the English *chemist*. Still, *er* has its weak side to some—I am told that, in New York, the undertaker seeks to be known as the moritian. The fact is, none of us likes his name.

The Oxford Dictionary, a mine of inspiration which is too little used, gives *Sciencer* and *Sciential*, both euphonic words. Of late, I have often used *sciencer*, and like it. *Sciential* has the authority of Keats and is less committal—it may even be applied not merely to the properly scientific but also to those who neither do nor make anything but merely talk and claim to be of the elect, though I should bar classical telepathists. As to Dr. Jeans, for whom solicitude is properly expressed, he may well be spoken of as a *sciencer*, if not reckoned with magicians: all will devoutly pray that he be kept away especially from *ists* in the guise of psychists.

I write this without consulting my sons but believe they would all support me, though I have not gifted any one of them with a musical ear—one of them, however, was brought up under Sir Clifford Allbutt in days when he was the boldest of warriors in defence of our English tongue.

We shall do well to take notice that *scientist* is fast becoming a word of evil import in the public ear—as meaning one of the set of peculiar people who talk a language no fellow can understand. Some day, soon, perhaps, the call may come to label NATURE: the Journal of Babel; the Dictionary will then give—Babel, the language of a sect devoted to an obscure practice known as science.

HENRY E. ARMSTRONG.

SCIENTISTS have hesitated to use the word "scientist," not because it is a hybrid (they are well used to hybrids); nor because it ends in a sibilant "-ist" (they are most of them "-ists," of one kind or another); nor because the word is appropriated by the unqualified (professors are inured to such treatment); nor yet because the word was originally used opprobriously (they are not really less courageous than Tories or Radicals); but because they were diffident. They feared to offend classical taste. No scientist ever puts his pen to paper without casting a fearful glance over his shoulder to see whether a classic should be looking on. You may reproach a classic with ignorance of science and he will plume himself with the compliment. But to suggest to a scientist that he is guilty of a classical lapse is more mortifying to him than to tell him he should have said "napkin" instead of "serviette." It is thus sheer nervousness which has prevented him from using a generic term as obvious and inevitable as is the word "artist." Now, thanks to you, the scientist is discovering, with something of the naïveté of M. Jourdain, that the classic never dreamt of objecting to the word and only wonders why there should be so much shyness about the use of it.

J. W. WILLIAMSON.

Gray's Inn, W.C.1.

**Anomalous Dispersion in the Field of X-Rays.**

IN the course of an investigation with the purpose of getting more exact determinations of the wave-lengths of the X-ray spectra, we have carried out a comparison of the lattice-constants of the two crystals, calcite and gypsum. In order to find the best possible value of this fundamental relation, we used a series of different spectral-lines with wave-lengths varying from 0.7 up to 5.2 Å.U. The measurements of the relation are given graphically in Fig. 1, where the values of  $\frac{d_1}{d_2} = \frac{\sin \phi_2}{\sin \phi_1}$  are plotted against the wave-lengths. As seen from the graph there are two

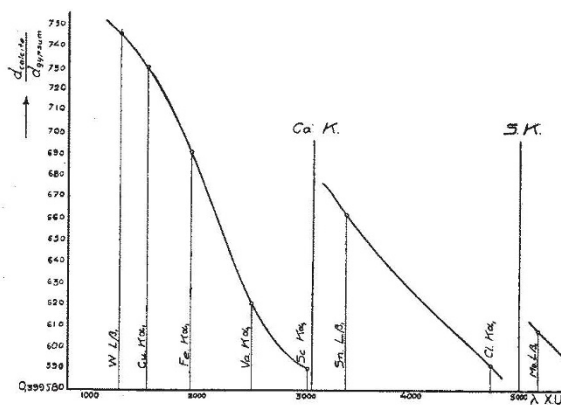


FIG. 1.

marked discontinuities in the run of the curve. It is also seen that these two abrupt variations coincide with the wave-lengths of the absorption-edges of calcium and sulphur.

It may be seen from the theory of X-ray reflection by crystals as given by Darwin and Ewald, that such an anomalous dispersion is to be expected. From these theories it is known that the simple Bragg law of reflection

$$n\lambda = 2d \sin \phi$$

is still valid if we give a modified meaning to the