P. chinensis has until recently been considered a variety of *P. major* (syn. *P. perniciosus*), which it resembles externally. This classification was due to the fact that the external male genitalia (which are very similar in *P. major* and *P. chinensis*) were considered to be of specific value, a view which, in the light of recent researches, is no longer tenable, and to the fact that until quite recently no characters were known which could be used for the identification of females.

The Kala-Azar Commission of the Royal Society (*Proc. Roy. Soc.*, B, vol. 102; 1928) made *P. major* var. *chinensis* a subspecies on the character of the spermathecæ. We consider *P. chinensis* to be an independent species, for the spermathecæ and the pharynx in the female and the pharynx in the male show constant and very marked differences from those of *P. major*.

The diagnosis of sandflies in the Mediterranean region has hitherto been based only on the character of the male genitalia, a character which cannot distinguish *P. major* from *P. chinensis*. Further research based on the characters of the spermathecæ and the pharynx is therefore necessary to determine whether *P. chinensis* is present in the kala-azar areas round the Mediterranean from which *P. major* has been recorded.

If, as we think probable, *P. chinensis* will be discovered in these areas, new light might be thrown on the epidemiology of kala-azar in the Mediterranean region.

S. ADLER.
O. THEODOR.

Microbiological Institute,
Hebrew University,
Jerusalem, Sept. 17.

The Dissociation of Pure Mercury.

BY applying Sommerfeld's expression (*Zeit. für Physik*, **47**, p. 1; 1928) for the conductivity σ of a metal

$$\sigma = \frac{8\pi}{3}\frac{e^2 l}{h}\cdot\left(\frac{3n}{8\pi}\right)^{\frac{2}{3}}$$

to the conductivities of dilute amalgams, it is possible to calculate n for pure mercury without a knowledge of l: e is the charge and l the M.F.P. of an electron, n the number of electrons per c.c.

Let there be c atoms of the metal X per atom of mercury. If both X and mercury are divalent, and both completely ionised, $\sigma = \sigma_0(1+c)^{\frac{2}{3}} = \sigma_0(1+\frac{2}{3}c - \frac{1}{9}c^2 \ldots.)$, this equation is of the form obtained experimentally for cadmium amalgam, but the coefficients disagree. Williams gives for cadmium at 14° C. (*Phil. Mag.*, **50**, p. 599; 1925) $\sigma = \sigma_0(1 + 4{\cdot}37c - 6{\cdot}27c^2)$.

The two expressions can be reconciled by assuming that only a fraction q of the mercury is ionised. Then $2/3q = 4{\cdot}37$, $q = 0{\cdot}15$, a value confirmed by that obtained from the second coefficient; $1/9q^2 = 6{\cdot}27$, $q = 0{\cdot}13$.

Compound formation, and incomplete ionisation of dissolved metal aggravate the discrepancy, so that the value given for q is a maximum. Specific effects do not, however, greatly influence the conductivities of those dilute amalgams for which σ increases with c, as is seen from the values of the coefficient of c: cadmium, 4·37; zinc, 4·78; magnesium, 6·18. The value for zinc is calculated from Larsen's results (*Ann. Physik*, **4**, I. p. 126; 1900).

A density correction may be introduced. If M is the molecular weight of X, d the density of the amalgam, d_0 that of pure mercury,

$$\frac{n}{n_0} = \frac{1 + c/q}{1 + \frac{Mc}{200{\cdot}6}}\,\frac{d}{d_0}.$$

Hence observed values of σ must be corrected by multiplication by

$$\left[\left(1 + \frac{Mc}{200{\cdot}6}\right)\frac{d_0}{d}\right]^{\frac{2}{3}}.$$

Using Richards and Forbes's values for d (Carnegie, Inst. Pub., 56) at 20° C.—the slope of the d/c curve is probably but slightly affected by small temperature changes—we obtain for cadmium amalgams $q = 0{\cdot}13$; for zinc amalgams $q = 0{\cdot}12$.

R. S. BRADLEY.
The University, Leeds.

Unit of Acceleration.

REFERRING to Mr. Keeping's letter on p. 478 of NATURE of Sept. 29, I agree that learners of the elements would be helped by a handier specification for acceleration; but a name for unit velocity would suffice. Speed is a primary apprehension, and it is rather odd that no unit name has been chosen for it; except 'knot.' Suppose for a moment that the velocity unit were called a 'vel'; then acceleration would be in vels per second, and momentum in gram-vels or pound-vels. These are not hopelessly bad: context would show whether feet or centimetres were intended; in any serious non-teaching specification abbreviations are seldom permissible.

Too many fanciful and slang names are undesirable: they were essential in electrical engineering because the real nature of the phenomena were and are unknown, so ohms and volts and amperes have proved invaluable. We are now beginning to think that the real nature of mechanical quantities is unknown too, but anyway we are accustomed to them, which is what we mean by understanding; so their units should not be named on the same plan as electrical units, by appropriation of great names. Watt and Joule, and perhaps Gauss, were fortunate in having monosyllabic names, but 'Gal' would be disrespectful. 'Erg' and 'dyne' have proved fairly serviceable, and any further mechanical unit should be named on that plan if it is to be international. 'Vel' happens to be suggestive and intelligible in several languages.

OLIVER LODGE.
Sept. 30.

Geological Jargonese.

IN some of the elementary books used in learning languages, a short glossary of difficult words is set at the head of each exercise. Will you not follow this practice in your technical articles and reviews? A recent obviously brilliant notice of a geological work of surpassing interest—on partition of the continents—is practically Chinese to us unfortunates who learnt our little geology in days when Lyell and Geikie were current and could be read with ease, pleasure and profit. Only recently, a visitor to my house, who had picked up from my table a number of the *Proceedings of the Geologists' Association*, remarked to me that he had found the articles entirely beyond him, although he once could master its pages. 'Prawns in Aspic' comes home to most of us. Not a few can understand 'Preserved in Formaldehyde' written upon a museum label. What a mountainous form 'preserved in sima' may be, the Gods may know; no ordinary reader of NATURE can put meaning into the phrase and not a few others like it. Other subjects than geology are often made equally impossible for the average reader of your wonderful journal. I would beg you to help us, if not in the way suggested, by choosing reviewers who will write an English that carries an obvious meaning.

ONE WHO ATTEMPTS TO READ
"NATURE" THROUGH.