tropic solution in a diagram perfectly symmetrical at all pressures. But I agree from other considerations that the maximum corresponds there to a definite compound.

Conclusions: In a communication which I recently made to the Second Education Conference held by the Association of University Professors and Lecturers of the Allied Countries in Great Britain on April 15, I complained of the fact that in the Anglo-Saxon countries too little use was made of original publications by scientific men on the Continent, with the exception of those from Germany, which appear to be widely read. I should like to emphasize that the foregoing discussion is an excellent case in point.

In my treatise "Les Solutions Concentrées", published in Paris in 1936, in which I gathered together all the known examples of mixtures of two organic components, will be found most of the systems mentioned above. The arguments developed in paragraphs 4 and 5 on the interpretation of the maximum melting point of mixtures of optical antipodes may be found at length in Chapter 4 of another work of mine published in Paris in 1927 and of which an English translation was made by my colleague, Prof. R. E. Oesper of Cincinnati University. This appeared in London and New York in 1940 under the title of "Chemical Species" (see Chapter 4, pp. 18–24).

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[1] *Nature*, **154**, 530 (1944).
[2] Lombaera, *Bull. Soc. Chem. Belg.*, **33**, 232 (1924).
[3] Padoa and Rotondi, *Gaz. Chem. Ital.*, **45**, I, 51 (1915).
[4] Jaeger, *Z. Kryst.*, **38**, 583 (1904).
[5] Mascarelli and Pestalozza, *Gaz. Chem. Ital.*, **39**, 218 (1909).
[6] Kurnakow, *Z. anorg. Chem.*, **88**, 109 (1914).
[7] Guertler and Schulze, *Z. phys. Chem.*, **104**, 269 (1923).
[8] *J. Chem. Soc.*, **119**, 1329 (1921).
[9] See Ostwald, *Trans. Chem. Soc.*, **84**, 106 (1904).
[10] *Bull. Soc. Chem. Belg.*, **44**, 44 (1935).

'Soil' Mechanics

THE objections raised[1] to the name 'soil mechanics' are timely and cogent, but the difficulty is too deep-rooted to be disposed of by a mere change of the title of the science. The main trouble would appear to be the continued use by engineers of the term 'soil' for material which is not soil in the generally accepted sense, but comprises all soft and loose deposits, namely, gravels, sands, silts, clays and peats. Some workers in soil mechanics also adopt with altered significance other expressions (for example, soil profile) which were first used and are now well established in pedology (soil science).

With the two sciences of soil mechanics and pedology both in a stage of early and rapid development, it is a matter of urgent necessity that steps should be taken to prevent the clashing of terms.

Soil mechanics was christened at the International Congress of Soil Mechanics and Foundation Engineering at Havard in 1936, and appears to have received considerable impetus in Britain after the James Forrest Lecture at the Institution of Civil Engineers by Terzaghi in 1939. Examples could be given from several soil mechanics text-books in which the difficulties of trying to retain a dual usage of the word 'soil' are apparent. In fact, acquaintance with the literature leaves one in no doubt that the adoption of 'soil' to refer to unconsolidated deposits in general has resulted in considerable ambiguity and confusion.

The word 'earth' was in common use in early engineering literature in Great Britain and it is used by some writers on soil mechanics to explain what they mean by 'soil'. It would appear, therefore, to be a more appropriate term and, although not without some objections, it is well established in engineering parlance (for example, earthwork, earth dam, earth pressure). There seem to be few objections to 'earth mechanics' or 'earth statics', provided 'earth' is defined as meaning unconsolidated deposits and excavated material. It is questionable whether engineers would readily accept 'geostatics', and, to the geologist, the prefix suggests something more profound than the surface layers encountered in engineering structures. However, as already stated, the name of the science is not the major issue, which is the misuse of the word 'soil'.

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[1] *Nature*, **153**, 716 (1944).

The Concept of Force

A FINGER pressed against a table has sensations of contact and muscular sensations of resistance. Prof. H. H. Price, in his presidential address to the Aristotelian Society on February 11, analytically supposes the finger to have the muscular sensations only. The owner would have a notion of *force* through these muscular sensations, but no notion of matter because he has no sensations of contact. Thus a being who experiences muscular sensations and never experiences sensations of contact would be "aware of pure force, disembodied force as it were".

When a motor-car turns sharply round a corner the passenger feels as if he were shoved, but not as if a thing shoved him. This centrifugal experience, Price notes, gives the normal human being an experience of "pure force". Also, the supposititious being who has this experience only, because no contact sensations assure him of material things, would fully appreciate the "fields of force" of physics.

The contents of sensory experience are presumably embodied in concepts of *force*, and, however unreflective the embodiment may be, analysis can legitimately expect to disclose it. The talks in the "Hermetica", which were probably finally collected in the third century A.D., are pervaded by a sense of pervasive forces. The talks collect ideas rather than systematize them, and the items in this Greco-Egypto concept of force can be again collected from them into a précis. The forces are efficacious, immortal, imperceptible, unextended, radiative and, though incorporeal, only work in bodies. This concept of force is well compounded; the "radiative", for example, has probably an analogue in solar rays, but the *incorporeal* corresponds to the revelation of "disembodied force" by muscular sensations, and the "only work in bodies" corresponds to the normal connexion between force and material bodies through sensations of contact.

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