being as follows: $a = 3{\cdot}9860 \pm 0{\cdot}0005$ kX., $c = 4{\cdot}0263 \pm 0{\cdot}0005$ kX., $c/a = 1{\cdot}0101 \pm 0{\cdot}0002$. This cell contains one formula-weight, $BaTiO_3$. The atomic parameters are the same as in the ideal cubic structure. The relationship between the tetragonal and cubic structure is close; the tetragonal unit cell may be simply derived from the cubic by stretching it homogeneously by about 1 per cent along one tetrad axis, which becomes the c axis.

This close relationship suggests that a transition to the cubic structure may occur at higher temperatures. This was verified from photographs taken with a high-temperature camera. At 200° C., barium titanate has the ideal cubic structure, with $a_0 = 4{\cdot}0040 \pm 0{\cdot}0005$ kX.

Further work is in progress.

I wish to express my gratitude to Sir Lawrence Bragg for allowing me the use of the high-temperature camera in his laboratory. I wish also to thank Mr. J. A. M. van Moll (head of the Material Research Laboratory) and the directors of Philips Lamps, Ltd., for permission to publish this work.

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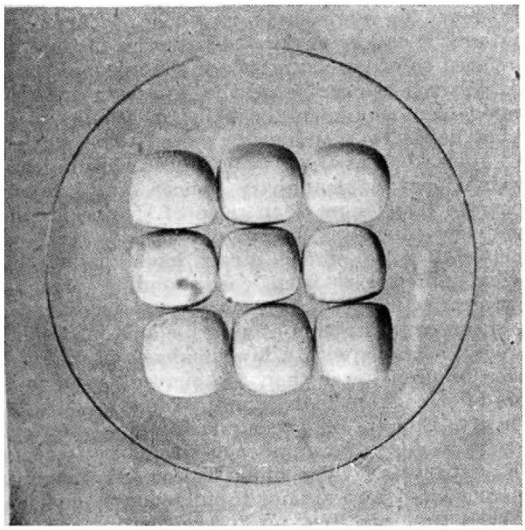
[1] Goldschmidt, V. M., "Geochem. Verteilungsgesetze d. Elem.", 8, 153 (1927).
[2] *ibid.*, and also 7, 37 (1926).
[3] Naray-Szabo, I., *Naturwiss.*, 31, 202 (1943).

Abrasion of Porcelain Balls

IN *Nature* of August 5, 1944 (p. 169), Lord Rayleigh gives a very interesting description of the production of pebbles of regular shape by laboratory abrasion tests. His main conclusion seems to be that pieces of marble of apparently homogeneous texture tend to become oblate or prolate spheroids even though they start from shapes that are roughly cubic or spherical.

We have recently observed a phenomenon that seems far more mystifying, namely, the tendency of porcelain balls when used for grinding refractory materials in a ball mill to assume a roughly cubic shape. The samples shown in the reproduction at approximately actual size were originally essentially spherical and assumed this dice-like shape after a few months of service.[e] Their original size was approximately twice that shown. The manufacturers of these balls state that they are made by extruding a cylindrical column of batch, cutting this off into lengths, and rolling to give sphericity. Had the extruded section been square an obvious explanation would have suggested itself.



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Nomenclature of Animal Behaviour

Dr. J. S. Kennedy and Dr. D. L. Gunn[1] have discussed the difficulties inherent in the creation of new technical terms in connexion with animal behaviour. Recently Donisthorpe and I have listed (in a paper now in the press[2]) the specialized scientific terms used in describing and classifying the behaviour of ants. So far as possible, terms used generally in entomology and other branches of biology have been omitted, except where they have a special myrmecological meaning. One hundred and seventy terms have been listed, and each one has been defined, the original author of the term being cited.

In many cases the original definition of a term is inadequate, or common usage may slightly change its meaning, and in such cases a new and, we hope, adequate definition has been given. Numerous synonyms occur, and in such cases both terms have been defined and included in the list. No attempt has been made to 'sink' one term or another.

I hope that when myrmecologists throughout the world have considered this list with its definitions and synonyms, and have pointed out any omissions, then it will be possible to decide by common consent to use certain terms and not others, and to set up a standard myrmecological terminology. It is to be hoped that this process may be continued throughout the biological sciences; but, to my mind, the first and essential step in the process is the listing and defining of the already existing terms.

I agree with Dr. Gunn that the use of common words as technical terms should be avoided. A flagrant case of this exists in myrmecology in the restriction of the terms 'mixed nests' and 'compound nests'. Wheeler[3] defined 'mixed nests' as colonies of ants which are composed of more than one species, and in which the brood is not kept separate; and 'compound nests' as colonies of ants which are composed of more than one species, and in which the broods are kept separate. This is most confusing to the non-specialized biologist, and destroys both the natural collective terms for colonies of ants which are composed of more than one species. To get over this difficulty I have recently proposed[4] the term 'mixtobiosis' to include all cases of mixed and compound nests of ants.

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[1] *Nature*, 155, 178 (1945).
[2] *Roy. Ent. Soc. Lond.*, in the press.
[3] "Ants", 423 (New York, 1910).
[4] *Roy. Ent. Soc.*, in the press.