That B_{Sn} is larger than B_{Cl} could perhaps be ascribed to the irregular manner in which the Sn atom is surrounded by the Cl atoms.

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Relation of symmetry to structure in twinning. II.

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Twin structures, which may be characterized as consisting of two equivalent crystals with a layer periodic in two dimensions—the boundary layer—common to both, have been considered by Holser (1958) and Dornberger-Schiff (1959).

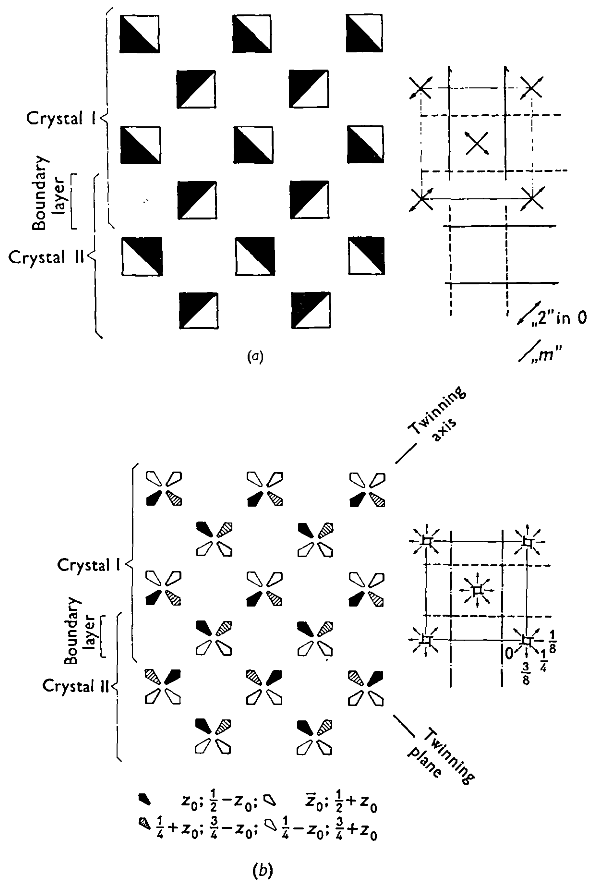

Fig. 1. Two schematic examples of OD structures built of equivalent rods extending perpendicular to the plane of drawing, each representing a twin structure consisting of two equivalent twin individuals with a common boundary layer.
a=example 1, b=example 2.

In the latter note it was erroneously asserted that any such structure may be looked upon as a member of a family of OD structures built of layers periodic in two dimensions (for a definition of the term 'OD structure' see Dornberger-Schiff & Grell-Niemann, 1961). Although, certainly, this description is true for a great many (if not most) of the known twin structures of this kind, it is now known not to be a necessary condition. Recent work has shown that there are some twin structures characterized as above which are OD structures built of *rods* periodic in one dimension only.

Two schematic examples are shown in Fig. 1(*a*), (*b*). A projection along the rod direction c is shown in each case. In either example, each rod has 4 nearest neighbours and any pair of adjacent rods is equivalent to any other pair of adjacent rods. The symmetry of the rods is such that a description of the symmetry of the boundary layer with the help of one of the 80 plane groups in 3 dimensions does not give all the symmetry operations of the linear group in three dimensions of the single rod, although these symmetry operations are essential for the equivalence of pairs of adjacent rods. Thus, in example 1, if A, B are the centres of adjacent rods, there is a rotation diad parallel to AB and a mirror plane perpendicular to it; both these are at 45° to the boundary layer, and therefore cannot be elements of the symmetry group of the boundary layer. In example 2 it is the 4_1 axis parallel to the boundary layer which—for obvious reasons—cannot be an element of its symmetry. In both examples the twin plane or twin axis is at 45° to the boundary plane which is the composition plane.

I should not like to predict, at the present stage, whether all twins, consisting of two equivalent crystals with a boundary layer in common, may be looked upon as members of families of OD structures built of either layers periodic in two dimensions or of rods periodic in one dimension (all alike or of several different kinds). It may very well be that the case of OD structures built of non-periodic blocks has also to be considered.

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