Table 3. *Euclidean normalizers of symmetry operations and their invariant subspaces*

Symmetry operation W	Euclidean normalizer N of W consists of	Invariant subspace(s) of N
Identity	All congruences	None
Translation, vector **t**	Those congruences which conserve vector **t**	None
Reflection in plane A	Those congruences which conserve plane A	Plane A
Glide reflection in plane A, glide vector **v**	Those congruences which conserve plane A and vector **v**	Plane A
Rotation about line b	Those congruences which conserve line b*	Line b
Screw rotation about line b, screw vector **u**	Those congruences which conserve line b and vector **u***	Line b
Rotoinversion with respect to line b and point P	Those congruences which conserve line b and point P, as well as the sense of rotation	Line b, point P, and plane perpendicular to b through P
Inversion	Those congruences which conserve point P	Point P

* If the rotation angle is not 180°, then the sense of rotation must also be conserved. The normalizer then lacks mirror planes through b, for instance. However this does not change its invariant subspaces.

reflection in a plane, for example, the normalizer contains all parallel translations, reflections in all perpendicular planes, *etc.* The short and rather obvious description in the second column of Table 3 is, however, sufficient to yield the invariant subspaces listed in the third column. This latter column is in accordance with the second column of Table 1. The ensuing definition hence becomes: *the geometric element of a symmetry operation W consists of the subspace(s) invariant for all operations belonging to the Euclidean normalizer of W.*

The following remarks apply to Table 3:

(i) The occurrence of three items for the rotoinversion (instead of two in Table 1) is not a discrepancy: if the point is invariant, invariance of the line follows from that of the plane, and *vice versa.* Hence, one of the latter two is redundant.

(ii) 'Subspace' should be taken in the proper sense, because in the improper sense ('all space') it is invariant for any congruence. It would have to be added to all geometric elements but would not increase their information content.

(iii) The invariance need only obtain for the subspace as a whole, not necessarily pointwise as required in the SCIPRO definition.

(iv) It should be noted that the congruence operations referred to above are operations in point space (see *IT*A83, § 8.1.5), not vector space. The given definition of geometric elements hence applies to symmetry operations in point space only, not to those in vector space.

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The Kathleen Lonsdale Lecture

The 1989 Kathleen Lonsdale lecturer is Dr Robert Diamond, who will deliver the lecture on 12 September 1989 at the Annual Meeting of the British Association for the Advancement of Science, which will be held in Sheffield, England, 11–15 September 1989. The title of the lecture will be 'Crystalline Viruses'.

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (R. O. Gould, Department of Chemistry, University of Edinburgh, West Mains Road, Edinburgh EH9 3JJ, Scotland). As far as practicable books will be reviewed in a country different from that of publication.

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Dislocations in solids. Edited by F. R. N. NABARRO. Pp xi+434. Amsterdam: Elsevier Science Publishers, 1987. Price Dfl 235.00 or US $94.00.

The successive volumes of the Nabarro-edited series *Dislocations in solids* have over the years been keenly awaited by a large interdisciplinary community of scientists throughout the world. Volume 7, the latest, consists of five chapters (33–37) on different phenomena involving dislocations which have been known for decades but on which new light has in recent years been thrown, thanks to new experimental techniques. The chapters range from relatively short, 42 pages, to those three times as long, 122 pages. They cover phenomena ranging from those – like electrical