FIGURE 20.   The Synthesis of a Vector (Patterson) Map for a Known Structure.

(a) The structure contains three atoms. Four unit cells are represented.

(b) The appearance of one unit cell is shown, with portions of others nearby, viewed with respect to each atom in turn, that is, with each atom placed, in turn, at the origin. This shows readily the termini of all interatomic vectors relative to the origin.

(c) The vector map is the sum of all these vectors and represents the positions of the centers of the individual peaks that comprise a Patterson map. Four unit cells are shown. The reader is urged to follow these examples with a piece of tracing paper, laying it down on the original structure and following the steps from (a) to (c). All large filled circles are equivalent origins. Invariably the overlap of the peaks in an actual Patterson map is such that few peaks are separately resolvable and hence peak positions are not easily found.