size until it had passed completely through our space to disappear as suddenly as it came. If it entered in any other direction, the appearance would be different and the figure not stationary. Now all of these representations of hypersolids are sectional and bear the same relation to the figures of which they are sections as plane sections do to solids, i.e. give very incomplete ideas of the figures themselves.

Is there no way in which we may get a perspective view of a hypersolid, just as we may represent a three-fold solid by a drawing on a plane, or by a photograph? Fortunately, there is such. We must expect our representation to be three dimensional and not two and therefore not representable on paper except as a two-fold representation of the three-fold projection. A camera to take photographs of four-fold figures would have to be four-dimensional and the dry plates (?) would be necessarily three dimensional. The representation I will describe I owe to T. P. Hall, who published an article on the subject in "Science" some twenty years ago. It is the only clear description of the method I have seen, but I am confident the method is fairly well known. The figures are copied from the above mentioned paper.

We may approach the problem of representation by projection by treating the simpler case of two-fold projection, and work the analogy out, step by step. The ordinary representation of the cube is shown in Fig. 1.

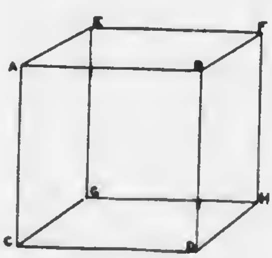

Fig. 1.

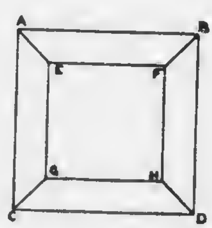

Fig. 3.

If we make such a cube of paper we may unfold it and spread it out on a plane, i.e., develop it, as in Fig. 2.

This figure consists of a central square bounded on each side by another square. To completely close the cube a fourth paper square would be necessary, but the sides of this square