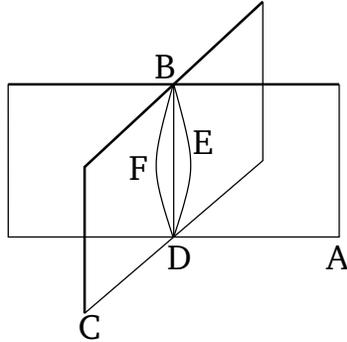


Book 11

Proposition 3

If two planes cut one another then their common section is a straight-line.



For let the two planes AB and BC cut one another, and let their common section be the line DB . I say that the line DB is straight.

For, if not, let the straight-line DEB have been joined from D to B in the plane AB , and the straight-line DFB in the plane BC . So two straight-lines, DEB and DFB , will have the same ends, and they will clearly enclose an area. The very thing (is) absurd. Thus, DEB and DFB are not straight-lines. So, similarly, we can show than no other straight-line can be joined from D to B except DB , the common section of the planes AB and BC .

Thus, if two planes cut one another then their common section is a straight-line. (Which is) the very thing it was required to show.