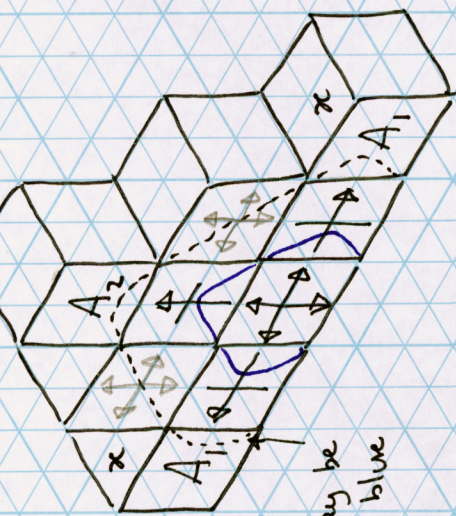


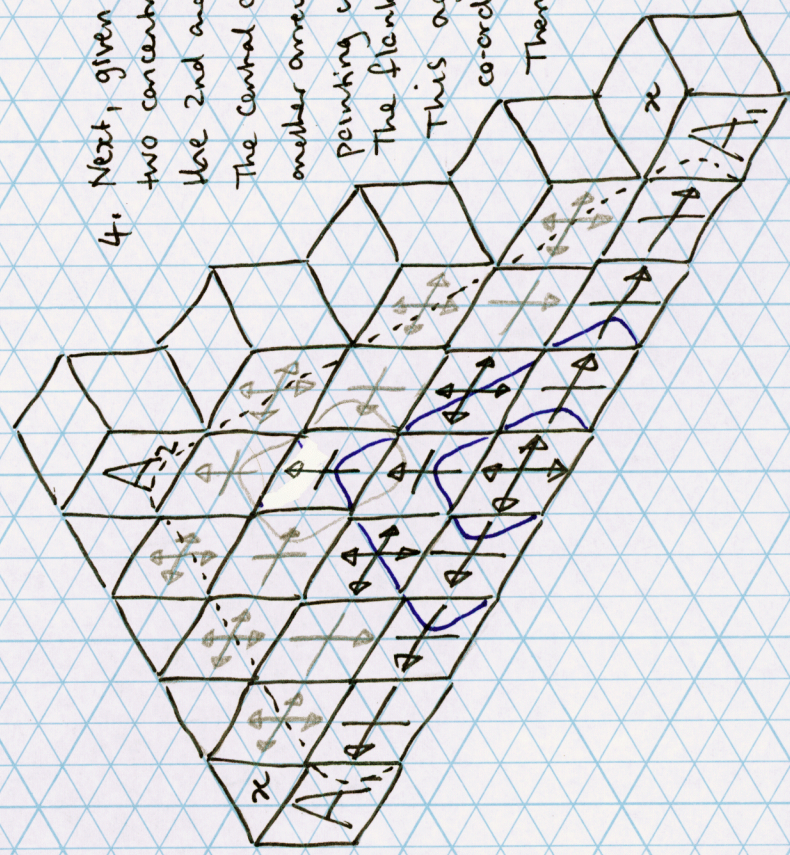
1. If we try to create a fault-line with misalignment at 2^0 distance we find no tile can sit on top of the fault-line and agree with the front plane markings.

2. Because the faces at A_1, A_2 must be Arrows a ring joins them together making both A_1 vertical or both horizontal. This in turn co-ordinates the faces at x which are either arrows pointing towards each other or both Crosses.



ring may be red or blue

3. The next opportunity for a fault-line is at distance 2^1 , which we again imagine on the top faces of the bottom row of cubes. The second row up is forced and again we have co-ordinated Arrow tiles and tiles at x positions



4. Next, given the bottom row and now two concentric blue rings we find the 2nd and 3rd rows up forced. The central column then must have another arrow on top and it must be pointing up to complete a blue ring. The flanking Crosses are then forced.

This again leaves the A_1, A_2 faces co-ordinated and likewise those at x . There can be no misalignment at 2^2 distance.

5. Below we have the next opportunity for a misalignment across a faultline i.e. at distance 2^3 . Given is the bottom row of cubes and 3 concentric blue rings. The remainder of the 2nd, 3rd, 4th and 5th rows up is forced. The next arrow in the central column must point up to complete a blue ring, then the remainder of the 6th row is forced. The central Arrow on the 7th row up is also forced by a blue ring (a bigger one) to point up. The 8th row is as the 6th row. This leaves us again with co-ordinated A_1, A_2 tiles and co-ordinated faces at x . This procedure applies to any potential misalignment at 2^k distance and so no fault-line is possible in 3D tiling.

