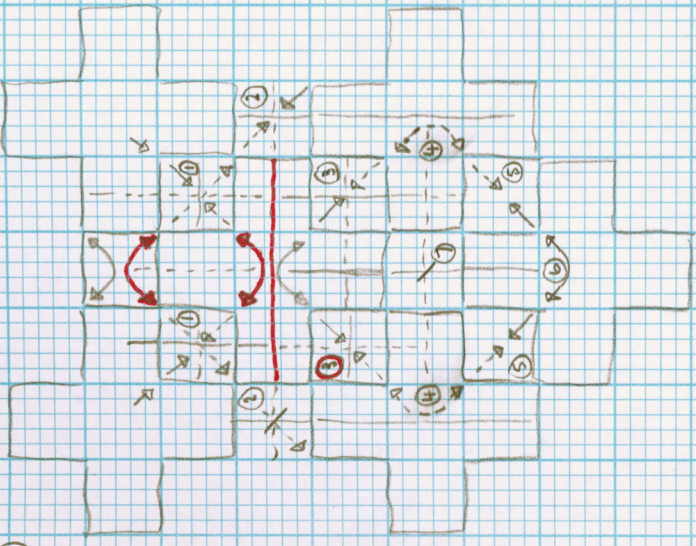


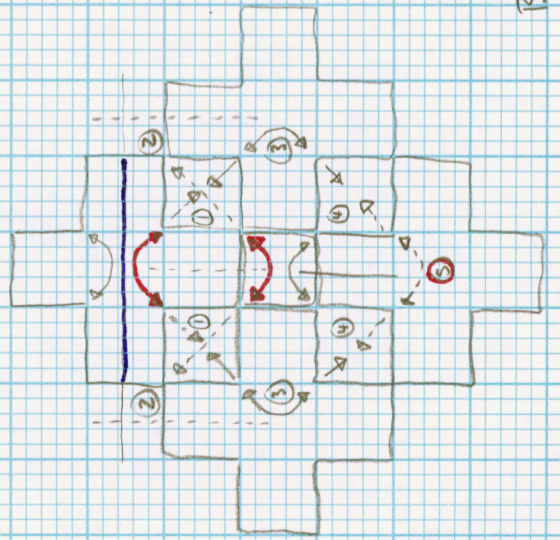
(i)



Note that A or B tile has red stripe clockwise from out arrow.

Non specified arm colours are indicated by short stripe orthogonal to out arrow.

(ii)



Given cross and C tile disposed as

at left, indicated in red, then:

- ① are A or B tiles by arrows in
- ② are also A or B tiles by arrows in
- ③ are again A or B tiles by arrows in
- ④ are red curved arrows by vertical blue stripes from ②, and matching ③.
- ⑤ are A or B tiles by arrows in
- ⑥ is blue curved arrows to match ⑤'s
- ⑦ is A or B tile, by crossed stripes, with arms

up and left, and down and right, as indicated,

Contradiction arises because ③ A or B tile,

up and to left of ①, cannot supply in arrow to both ① and ②, up and left of ③.

Similar argument follows if we begin with blue stripe and arrows.

Given cross and C tile disposed as at left

indicated in red and blue then:

- ① are A or B tiles by arrows in
- ② are also A or B tiles by arrows in
- ③ are blue curved arrows by red stripes from ②, and matching ①.
- ④ are A or B tiles by arrows in
- ⑤ is red curved arrows to match ④

But blue stripe from C tile contradicts ⑤.

(iii) Given the cross tile and C tile side on

at left, marked in blue then

- ① are A or B tiles by arrows in
- ② is red curved arrow by matching with ① and blue stripe from C tile.
- ③ is A or B tile by in arrows
- ④ is red curved arrow by matching with ③ and blue stripe from C tile.
- ⑤ is A or B tile by in arrows.
- ⑥ is red curved arrows matching with ⑤ and ①

New cross at ⑥ and C tile are disposed as in (i) or (ii). Actually can be shown to be as (i) (by D's A or B tile) so contradiction soon follows.

If C tile has red and blue arrows swapped then cross tile as ⑥ is on opposite side of drawing and same contradiction follows. Swapping all colours leads to same contradiction.

Conclusion: C tile cannot appear at end of side arm of cross tile, only at end of main stripe of cross tile. = LEMMA 1