## Iwahiro's Apparently Impossible Cube \#1



Design and Copyright by Hirokazu Iwasawa, 2003; http://puzzlewillbeplayed.com/444/IwahiroAIC/l.
Left: 3D print design by Richard Gain, thingiverse no. 23279, 2012, 1.5" square. Right: Crafted from walnut by Alex Storer, 2022, $2+5 / 8^{\prime \prime}$ square.

The puzzle can be assembled with a simultaneous motion in two dimensions on the surface of a table. Observe that there are two identical pieces and two identical mirror images of them. Arrange one of the pairs back to back. Then, holding the the other pair back to back and upside down, place them perpendicular to the other pair. The slide all four together together with a symmetric simultaneous motion.

Here are the steps of assembling a printed plastic puzzle listed as simply "Apparently Impossible Cube" at https://www.thingiverse.com/thing:23279; this one fabricated on a Monoprice V2 printer in 2021, PLA plastic, scale $120 \%$, infill $22 \%$, resolution 0.175 mm :


Here are the steps of assembling the walnut puzzle (made by constructing a jig for making table saw cuts with a flat top blade):


