The Pumapunku temple at Tiwanaku, Bolivia, is a temple complex that is considered the apogee of pre-Colombian architecture and construction. The shattered remains of an impressive andesite building set on huge stone slabs has been the subject of admiration since it was first described in 1549. Unfortunately, artists’ reconstructions range from the uninformed to the bizarrely speculative. In this presentation, the fragmentary remains of the Pumapunku are virtually modeled and printed in three dimensions at a reduced scale to capitalize on the archaeologist’s training, allowing the investigator to think in three dimensions and refit broken objects. This method is applicable to any heavily damaged architectural setting where there is a strong local pressure to reconstruct complexes for touristic and nationalistic purposes.

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