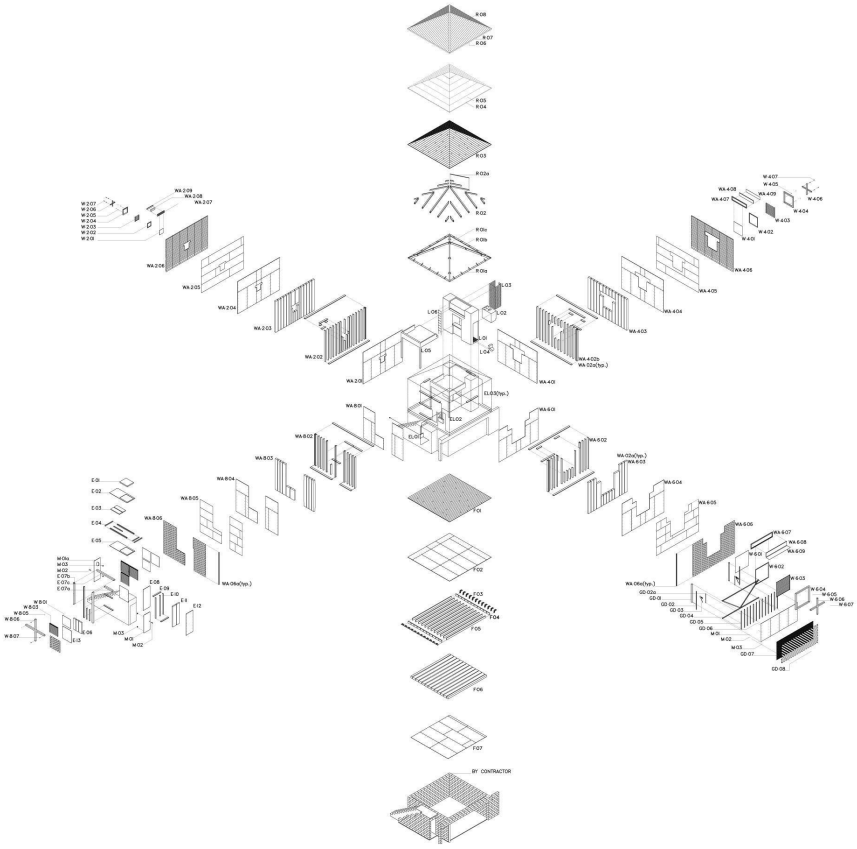

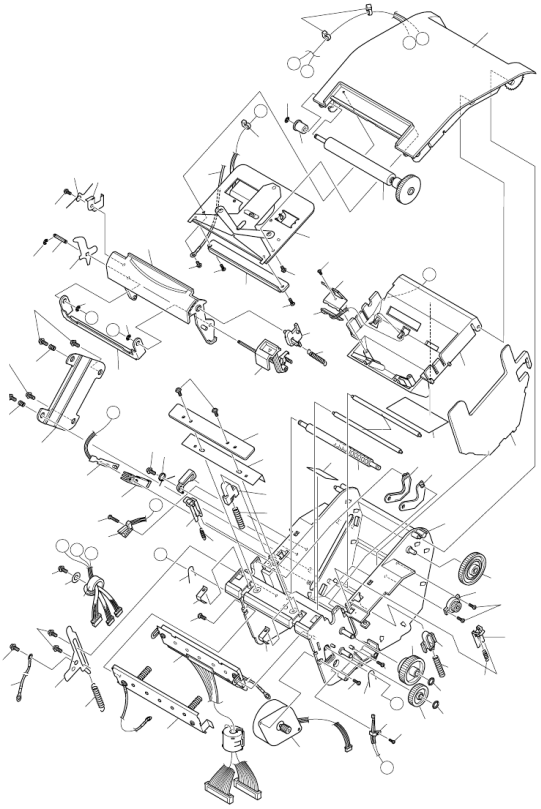

Spring 2020 | ARCH 4605/6605 | TH 12:20-2:15p | Rand 304 | Dillon Pranger | drp94@cornell.edu

DESIGN FOR DISASSEMBLY

To take apart a concrete structure, we pulverize it.

To deconstruct a welded steel frame, we cut or torch it.

To disassemble a wood-framed house, we saw it apart.

Today's construction methods prioritize permanent techniques of statically casting and welding, or, irreversible methods of fastening and adhering materials together. These processes of construction allow very little opportunity for reuse of materials. Current methods of construction not only use building materials in a non-circular way but are also responsible for the consumption of massive amounts of it. The construction industry consumes approximately 30% of all raw materials in the world today.[1] With the average lifespan of a building using concrete construction techniques being only 60 years[2], this leaving us to question: what happens after the building's intended function has concluded?

Design for Disassembly (DfD) posits that nothing built should exist in a state of assumed permanence, but instead, as temporary compilations of future building materials. Through this lens, the seminar will more be interested in how things come apart, rather than how they go together. The seminar will explore historical and contemporary examples of buildings and other objects that have been designed for disassembly. In addition to the lectures and assigned readings, students will actively engage in the making of a series of small physical constructs that apply these concepts with materials harvested from the local region. We will employ unique fabrication techniques of undercutting, slotting, stitch-cutting, forming and joining as a way to mitigate waste and maximize the material's ability for future reuse during the design and construction process.

[1] United Nations Environment Programme.

[2] A Colloquium to Advance the Practice of Conserving Modern Heritage.