



Paweł Bejm: Rejoining the Fractured



Basalt quarry

Basalt of Etna

Basalt, as a hardened lava flow starts its life deep under the Earth surface. Thick carpets of flowing rock cover the slopes of Etna, creating an unearthly landscape of craters where rough scraps of viscous rocks are mixing with layers of fine volcanic powder.

The extraction of basalt starts at the tip of the lava flow, where the forces of nature meet the human realm, capriciously choosing which houses stay intact and which are buried under a thick shell. The quarries are slowly reclaiming what was once covered by the expanding volcano. In an endless tug of war, where humans are trying to size themselves against mother nature, turning a disaster into a source of versatile construction material. Even in its hardened form, basalt carries traces of its fluid state. The imperceptible network of contraction fractures split the rock into irregular forms.

Even though massive on the surface basalt is full of life on the inside. Humans cannot bend it to their will. It's really hard and unlike many other stones, basalt doesn't let itself be cut in rectangular blocks. It involves a particular mode of extraction, relying on its natural characteristics. The rock decides itself where and how to break. Humans can only collect what nature gives.

Once detached from the wall, stone blocks undergo industrial processing, losing their innate irregularity, ending mostly as rectangular slices of only few centimeters thickness. The natural shapes are cut off, one by one from every side to reach a rectilinear shape. However it is not the end product but the very moment when the first cut is made that stimulates imagination. A perfect blend between the natural and the cut form! The precision of the man made cut contrasting with the roughness of nature.

Precision versus roughness, weights set in the act of balance serve as a base for a language of joints, specific to basalt.

Drawing conventional plans doesn't work since every stone is unique. The design is based on an empirical method. Here you first have to build in order to draw a plan. You can define the joining technique and principles, but the irregularity is embedded in the expression of the structure. It is the specific material gesture of basalt.



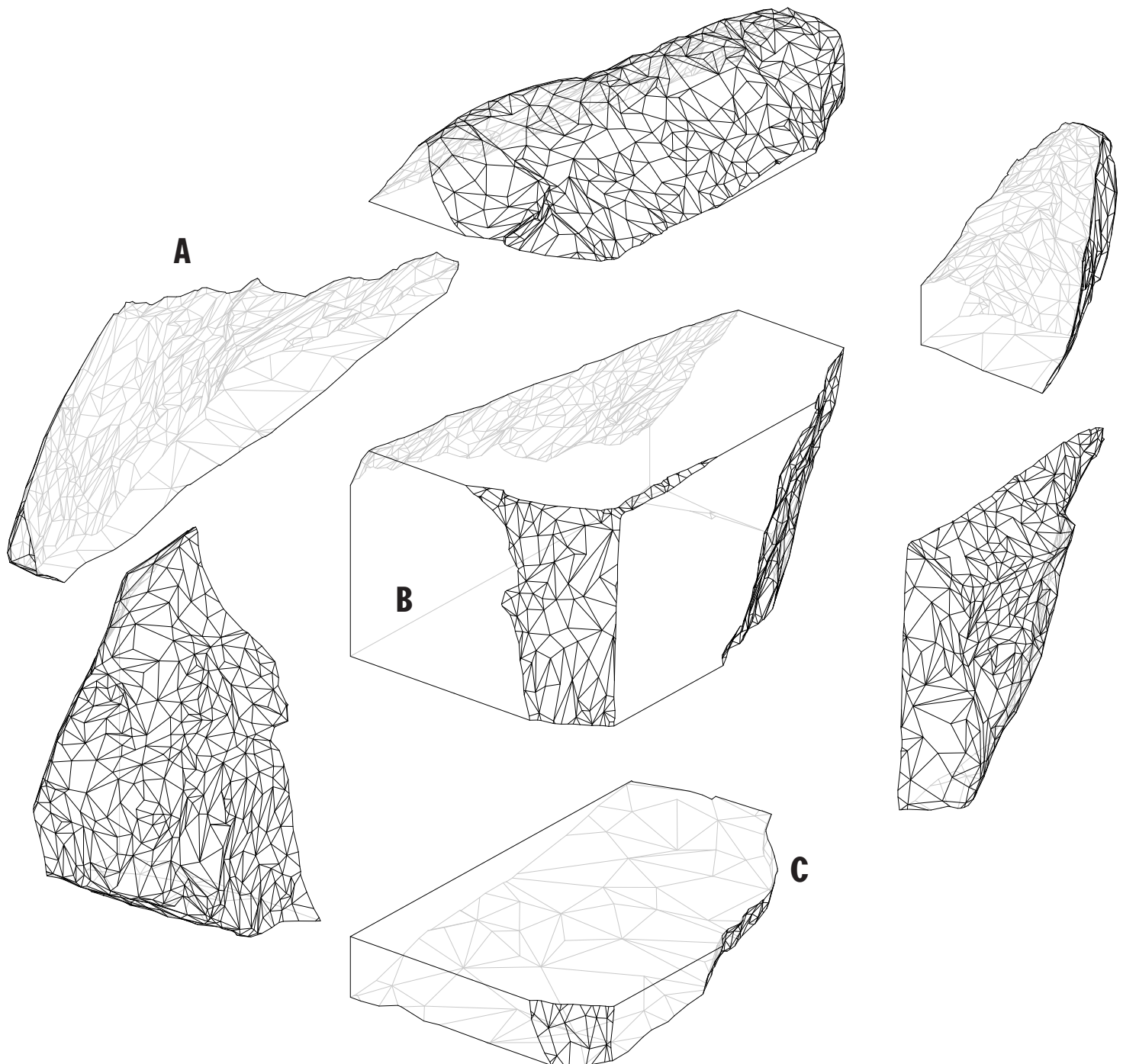
Extraction by underdigging



Raw basalt blocks

Processing

Basalt rocks are transported to the workshop on a lorry and cut into rectangular blocks with sizes ranging from 3 to 35 tons. During this process, stones completely change their form, from naturally rough to industrially flat and polished.



A Rest side piece
B Main block

C Rest bottom piece



Processing by circular saw



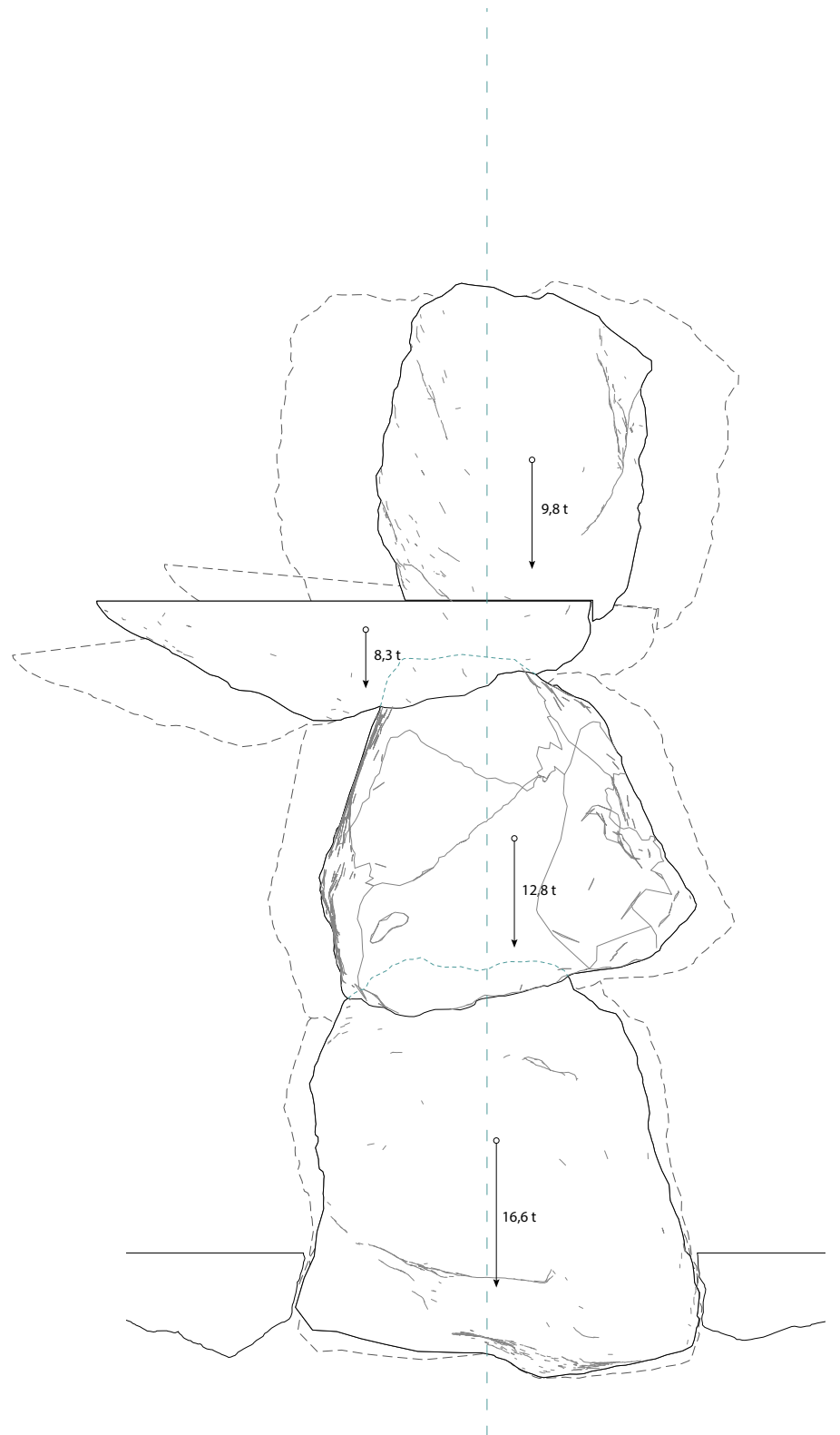
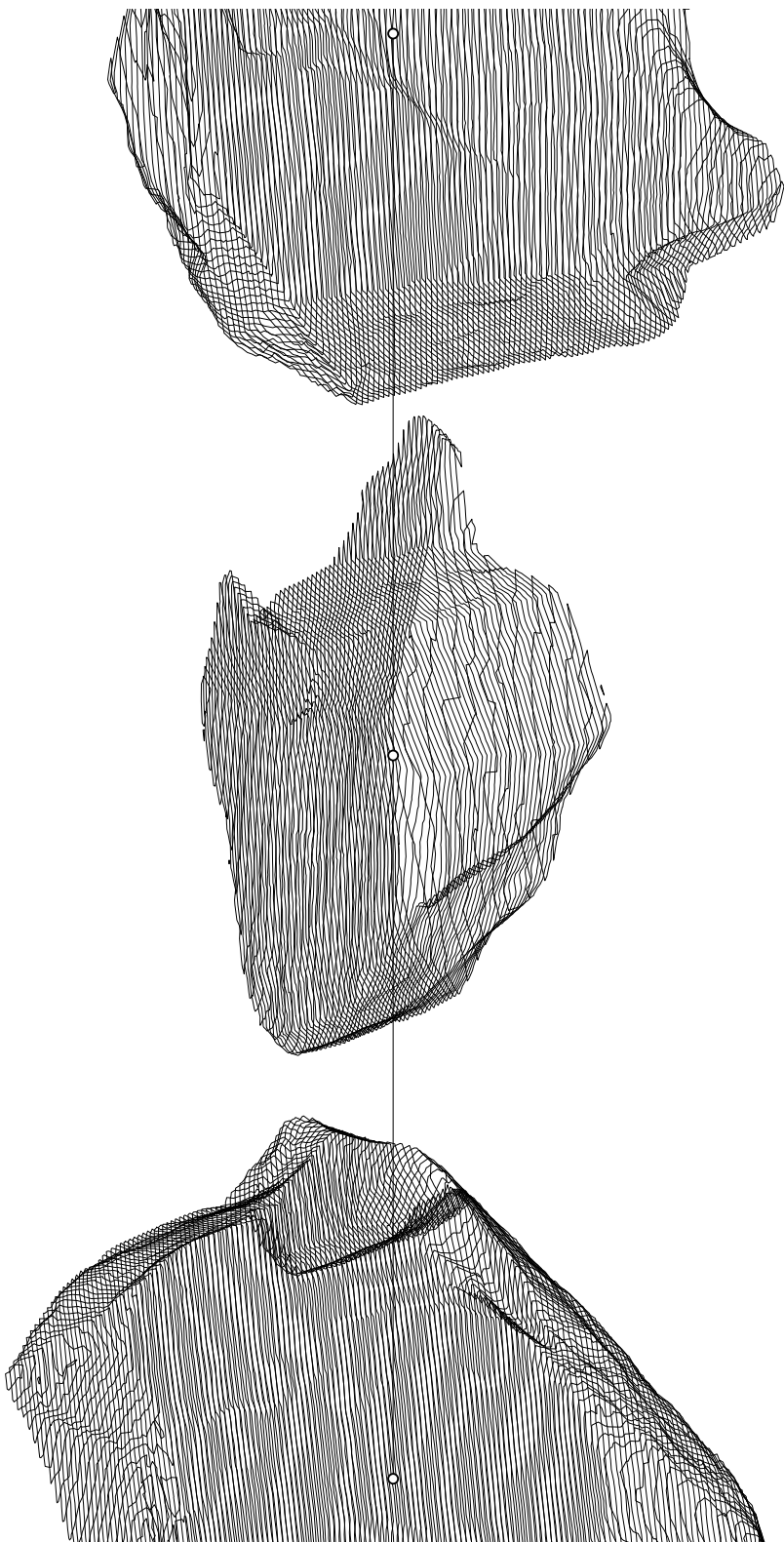
Natural and cut faces



Squaring blocks with a diamond wire saw

Structural stability

Once the initial challenge of finding equilibrium is overcome, the mere weight of the stones provides a good stability to the column. As long as the resultant force lies within the material, the structure stays in balance. The mass of every stone also provides a high inertia counteracting the lateral shakes in the case of an earthquake.



Alignment of mass centerpoints

Resultant load - normal case

