



BRAIN SCAPES

STANFORD CENTER FOR COGNITIVE AND NEUROBIOLOGICAL IMAGING

LAURA JACOBSON

BRAIN SCAPES

Unraveling the mysteries of the human mind continues at the forefront of the scientific endeavor. Central to brain science is Magnetic Resonance Imaging (MRI), a tool that allows scientists to safely peer into the living, thinking human brain. The Stanford Center for Cognitive and Neurobiological Imaging (CNI) supports researchers across diverse fields such as Law and Engineering, Education and Medicine, Psychology and Business, with the aim of using neuroscience to benefit society.

In designing and constructing art for the new imaging center, my role was to bring a visual experience to the CNI that resonates with its goals and purpose, while bridging connections between neuroscience, society, and art.

A deep interest in biology and structure drew me to human MRI axial slices. Using clay, I punctuated these slabs with technological impressions, bringing home connections to Silicon Valley and the contemporary digital moment. The vitrified clay comes to resemble bioscapes marked by culture.

Architecture and local topography combined with brain structures and neurons inspired the etchings on paper. The inked lines bring an emotional edge to these macroscopic and microscopic interiors that reference both landscapes and the history of neuroscience.

Finally, the acrylic paintings drew imagery from MRI hardware itself and from red blood cells, the lifeblood, so to speak, of functional MRI, which chronicles oxygen flow to brain regions, as subjects perceive, think, decide, and feel. On canvas, the cells flow into a milieu of paths, neuronal strata, and radio frequency space.

My hope is that interpretations of these artworks reach beyond their sources to suggest a collision between the material world, now brimming with exciting new data and technologies, and the mind, formed by biology and shaped by the incalculable stuff that makes us human.

Laura Jacobson
April 2013

RESONANCE PUNCTUATED 2012

Stoneware and slip mounted on wood
30 x 60 x 1.5in

RESONANCE PUNCTUATED is an ongoing series of ceramic works based on MRI scans of the human brain. In these works industrial ephemera, such as circuit boards, plumbing fixtures, and auto parts have been pressed repeatedly into clay. These embossed slabs, pigmented with slips, are arranged into anatomical forms and structures. The use of medical scans combined with cultural pressings merge digital images with the residue of contemporary artifacts.



POSITION
2012

Etching, aquatint, monoprint on paper
12 x 30in

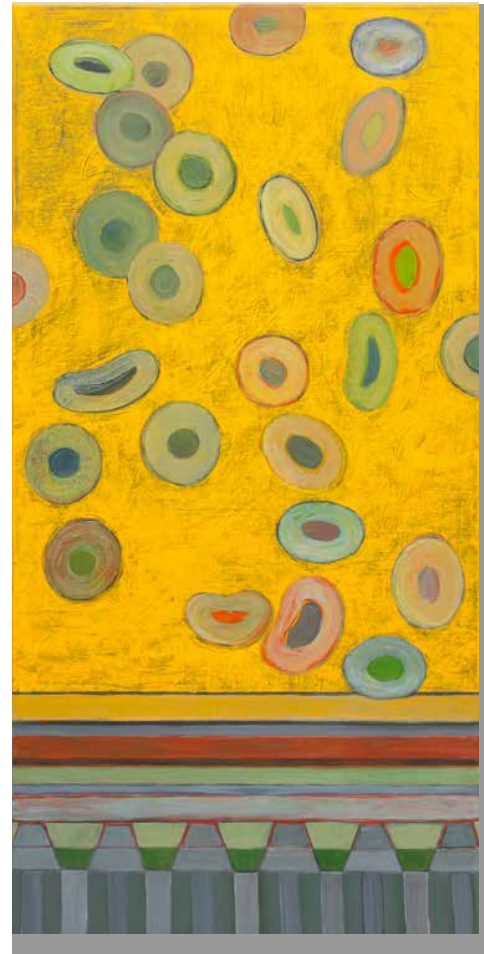
POSITION blends imagery from four sources: a cross section of the human hippocampus, a brain structure that plays a role in memory and spatial coding; myelinated nerve fibers; topography of the Stanford University campus; and an architect's schematic of the Main Quadrangle, one corner of which houses the CNI. *Position* engages with the idea of mapping as it relates to the role of the hippocampus and to the broader goal of functional brain imaging.



ACQUISITION
2013

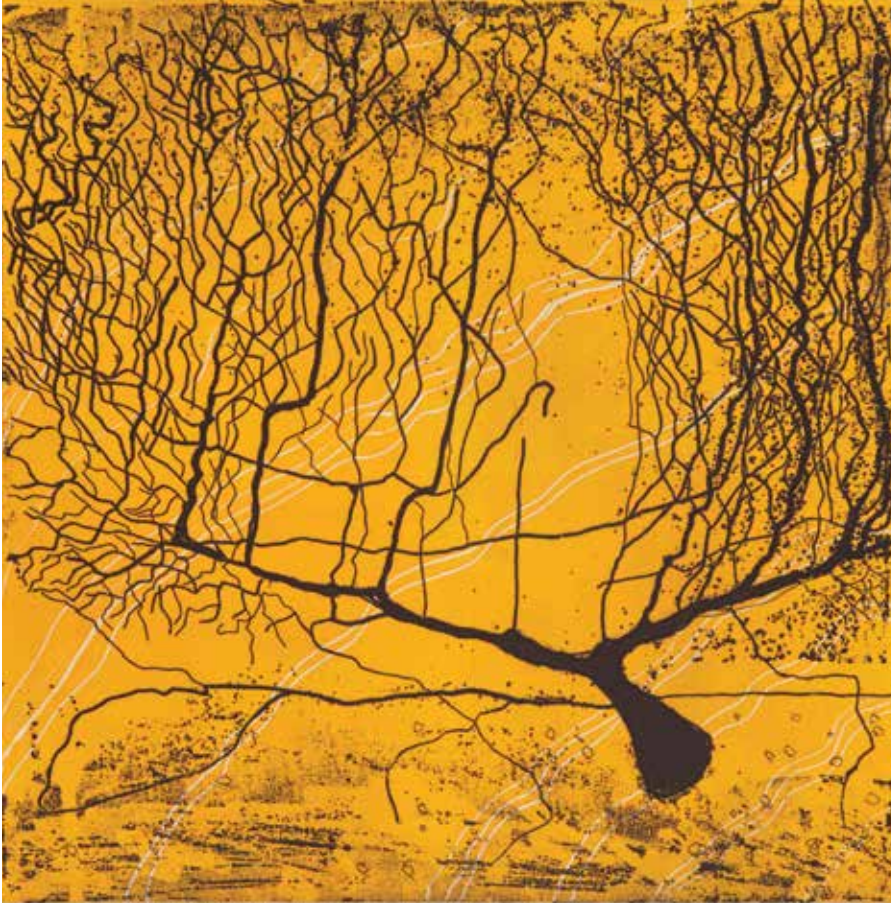
Acrylic, graphite on canvas
44 x 47 x 2in

ACQUISITION plays geometrical patterns and chemical symbols against the organic nature of red blood cells, whose movement through the brain (carrying oxygenated hemoglobin) to neuronal structures is measured by functional MRI. Additional references in this diptych include the lens and pars plicata from the human eye, the hemoglobin molecule, the bed and bore of an MRI itself, and MRI pulse sequences. This work is about the acquisition of knowledge: the systematic use of pattern and measurement to understand the inner workings of the mind.



NEURON NO. 3
2012

Etching, monoprint on paper
12 x 12in



NEURON NO. 3 references three moments in neuroscience history: Jan Evangelista Purkinje (1787-1869) discovered and named these large cerebellar neurons in 1837; Italian physician Camillo Golgi (1843-1926) developed a process in 1873 that stains only a few neurons from the tangled masses; and Spanish physician Santiago Ramón y Cajal (1852–1934) used Golgi's staining technique for his seminal drawings of the nervous system in the early 20th century. *Neuron No. 3* alludes to this history and aims to express the complex beauty of the neuronal landscape.

ARTIST BIOGRAPHY

A native of Los Altos Hills, CA, Laura Jacobson earned an MFA from the Rhode Island School of Design (2003) and a BA from Stanford University (1989). She worked as a journalist for San Francisco Bay Area newspapers before turning her attention to art in the early 1990s. A keen interest in science, especially biological form, combined with a commitment to color and pattern, and the broad use of sources ranging from digital technology to the fossil record stamp her work with a contemporary edge. She maintains a studio in Palo Alto, CA, and her works can be found in numerous collections in the United States and abroad.

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