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Cognitive Science In The Work Of Markus Schinwald

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11/24/2014

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Markus Schinwald, Installation view, 2014; CCA Wattis Institute for Contemporary Arts; photo: Johnna Arnold

By Joe Ferguson

If you were a science geek in the 19th century you were probably reading about the evolution of the human brain from Charles Darwin, the psychological theories of William James, and the *neuron doctrine* of Cajal. By the end of that century, however, you were most likely caught up in the computational developments of Charles Babbage and Ada Lovelace.

Babbage is credited for developing the world's first programmable computer. Lovelace wrote an algorithm that allowed the computer to calculate a sequence of Bernoulli numbers. By the middle of the 20th century those breakthroughs led to advances in computation. When combined with a greater understanding of neural anatomy and physiology, their theories resulted in a *computational neuroscience*--essentially, the idea that the brain is a computer and the nervous system is its circuitry.

Cognitive science continues to evolve. We now see that the body, and the way it relates to the environment, is part of how we understand the world. This relatively new perspective is called *embodied cognition*, and it is dramatically demonstrated in a new exhibit by Markus Schinwald (http://www.sfmoma.org/exhib_events/exhibitions/511). His work is currently on view at the CCA Wattis Institute for Contemporary Arts (<http://www.wattis.org/>) in San Francisco through December 13, 2014.

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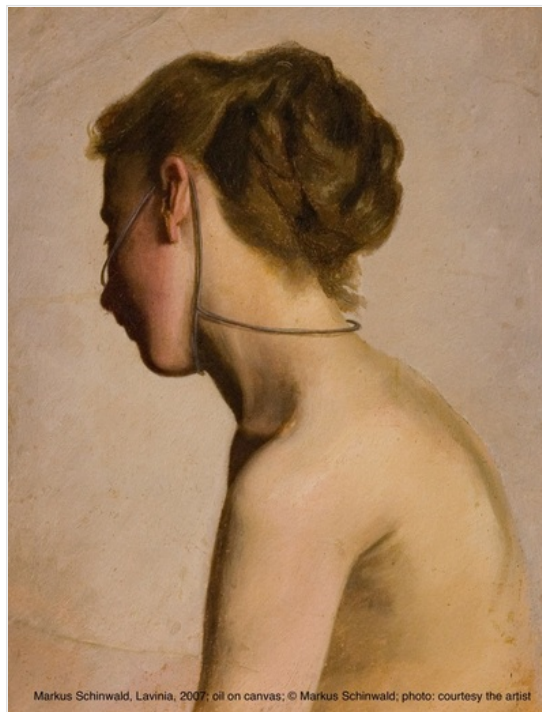
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Computational neuroscience gave way to *computational cognition*. It works like this--computation operates through mental images or symbols, these symbols begin when inputs arrive in the brain and end with outputs from the brain, therefore all cognition takes place in the brain alone. Susan Hurley summed it up best in *Consciousness in Action*, "If perception is input from the world to the mind and action is output from the mind to the world, then the mind as distinct from the world is what the input is to and the output is from. So, despite the web of causal relations between organisms and environments, we suppose the mind must be in a separate place, within some boundary that sets it apart from the world."

If these ideas seem a bit detached, a bit solipsistic, you're right. Schinwald's *embodied cognition* approach explores how the body relates, and is part of, the environment.

Schinwald purchased 19th-century portraits from minor artists which he altered by adding incoherent characteristics such as surgical masks, neck braces, nose piercings, and orthopedic appliances. The paintings are mounted on upholstered walls that divide the gallery into unfamiliar spaces--some of the walls are suspended, some are set at diagonals. The space is joined by a network of brass rods that weave through the exhibit, creating a *nervous system* that connects everything. Climbing on the walls and wrapped around the metal rods are four-limbed human-like figures made from Chippendale-style table legs. The sculptures look like human figures, but also like neurons with a central nucleus and four reaching dendrites.

To understand this exhibit, you must separate yourself from previous theories of cognition. The installation stretches from room to room, requiring the viewer to move throughout the space to take it all in. Gone is the idea of passive observation and input processed exclusively by the brain. Your brain says "move, I need more," so you walk, bend, and crane your neck up and around the obtrusive architecture.

You don't see the Schinwald exhibit, you explore it.

Schinwald's site-specific installation evokes the theories of two prior centuries, yet plants itself firmly in the 21st. The upholstered walls and table-leg sculptures bring to mind Victorian notions of the human body. The detached objectivity of the portraits, and the invasive restraints of passive interventions remind us of that period's medical paradigm. The grid-like arrangements of metal rods that touch and connect the exhibit evoke the computational zeitgeist of the mid-20th century, and yet the unconventional architecture and the need to physically explore the gallery are constructs of the embodied cognitive theories of our current time.

The exhibit is co-hosted by the California College of the Arts Wattis Institute (<https://www.cca.edu/>) and San Francisco Museum of Modern Art (<http://www.sfmoma.org/>) and is on display through December 13th.

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