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A Block
Around the House

This is the Galvactivator, a device my mother invented while she was at graduate school at MIT. Her education there consisted of some of the first combinations between psychology and computer science; she helped to pioneer the birth of a field that has been named affective computing, which is now being studied extensively at MIT, thanks to the creation of this glove.

Her device wraps around the hand like a fingerless glove, and it fits snugly so that the metal on the underside presses against the skin of one's palm. It is made of cloth, velcro, a battery-powered simple circuit, a red light bulb, plastic, and a winding knob. The circuit, light bulb, and winding knob are sewn between pieces of cloth, and these parts sit on the top of the hand; the winding knob sticks out of the cloth so that it can be wound externally, and a piece of plastic both protects the light bulb from being broken and amplifies the light that the bulb gives off.

The purpose of this glove is to demonstrate how technology can be used to interpret internal and non-visible human data—emotion—and process it so it can be communicated as external, visible data—the flashing of a light. Once the glove is put on, the battery in the circuit sends an electrical current through the hand; then, the piece of metal touching the hand measures the resistance of the current through the sweat activity on the palm's skin. Depending on the emotional state of the human, the circuit produces a specific brightness of light that reflects the strength of the human's emotion, or the amount of resistance. As the emotions of the human intensify, the sweat activity intensifies, and the brightness of the light intensifies. This is what is called the galvanic skin or electrodermal response, a central process to affective computing.

Interestingly, this response can be tested with the winding knob, a variable resistor, as turning the knob dims or brightens the light. Turning the light fully dim allows each human's baseline to be "zeroed," so that when a human is scared, made to laugh, or embarrassed, one can see how different human emotions produce different amounts of light for different people. Therefore, because this glove takes data and makes it understandable, it can be considered a computer.