

Extract from

**The Creative Computer: Machine
Intelligence and Human Knowledge**

**By Donald Michie and Rory
Johnston**

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Edward Ihnatowicz is a Polish-born sculptor living in England whose interest in the kinetic stems from his conviction that the behaviour of something tells us far more about it than its appearance. This led him to build the Senster, one of the most influential kinetic sculptures ever made. It consisted of a fifteen-foot-long steel frame articulated in six different places, with the joints all powered by hydraulics, the whole vaguely reminiscent of a giraffe made of tubular lattice. On the Senster's 'head' were carried an array of microphones and a Doppler radar system. The Honeywell mini-computer controlling the mechanism was programmed to make it react to three things: moderate and low sounds, loud sounds, and fast motion. Moderate sounds the head would move towards, loud sounds it would pull back from, and fast motion it would track. The result was an uncanny resemblance to a living thing, and the crowds at the Evluon in Eindhoven, Holland, where it was on show reacted with enormous excitement. Children would shout and wave at it, call it names, and even throw things. Ihnatowicz explains that its movements seemed to stem from situations that people recognized.

In the quiet of the early morning the machine would be found with its head down, listening to the faint noise of its own hydraulic pumps. Then if a girl walked by the head would follow her, looking at her legs. Ihnatowicz describes his own first stomach-turning experience of the machine when he had just got it working: he

unconsciously cleared his throat, and the head came right up to him as if to ask, 'Are you all right?' He also noticed a curious aspect of the effect the Senster had on people. When he was testing it he gave it various random patterns of motion to go through. Children who saw it operating in this mode found it very frightening, but no one was ever frightened when it was working in the museum with its proper software, responding to sounds and movement.

Although the Senster was dismantled some years ago, many people who saw it still remember vividly what a strong impression it made on them. Ihnatowicz has various ideas for further developments, including an investigation of how motion and perception are interdependent, an important topic for artificial intelligence. Unfortunately, the mechanisms are necessarily expensive, and the resources to build them are not easy to come by.