

Artificial Intelligence Art?

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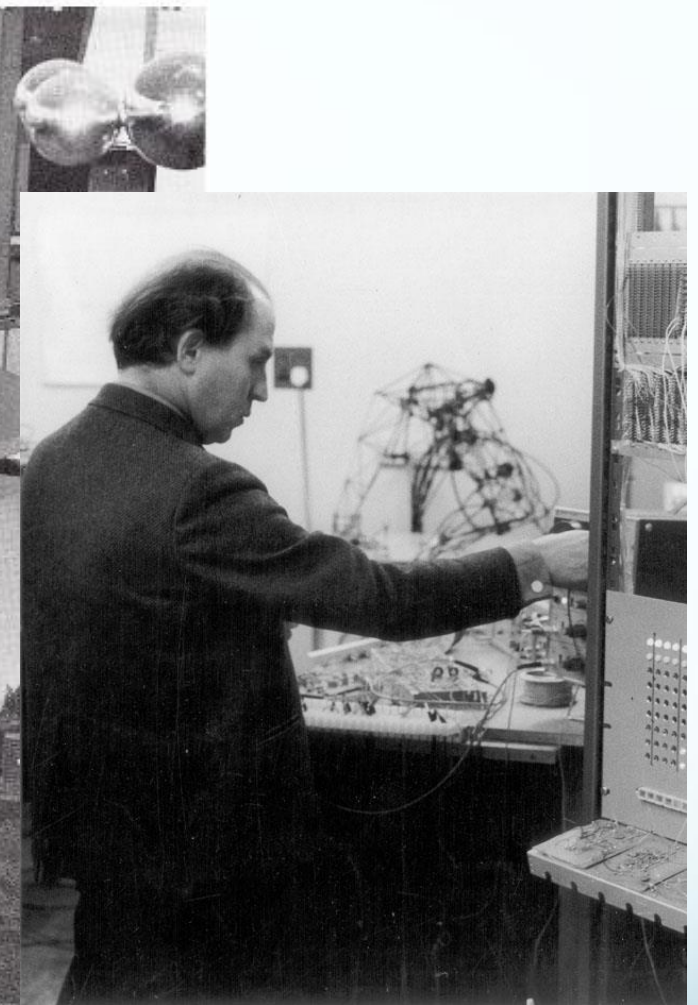
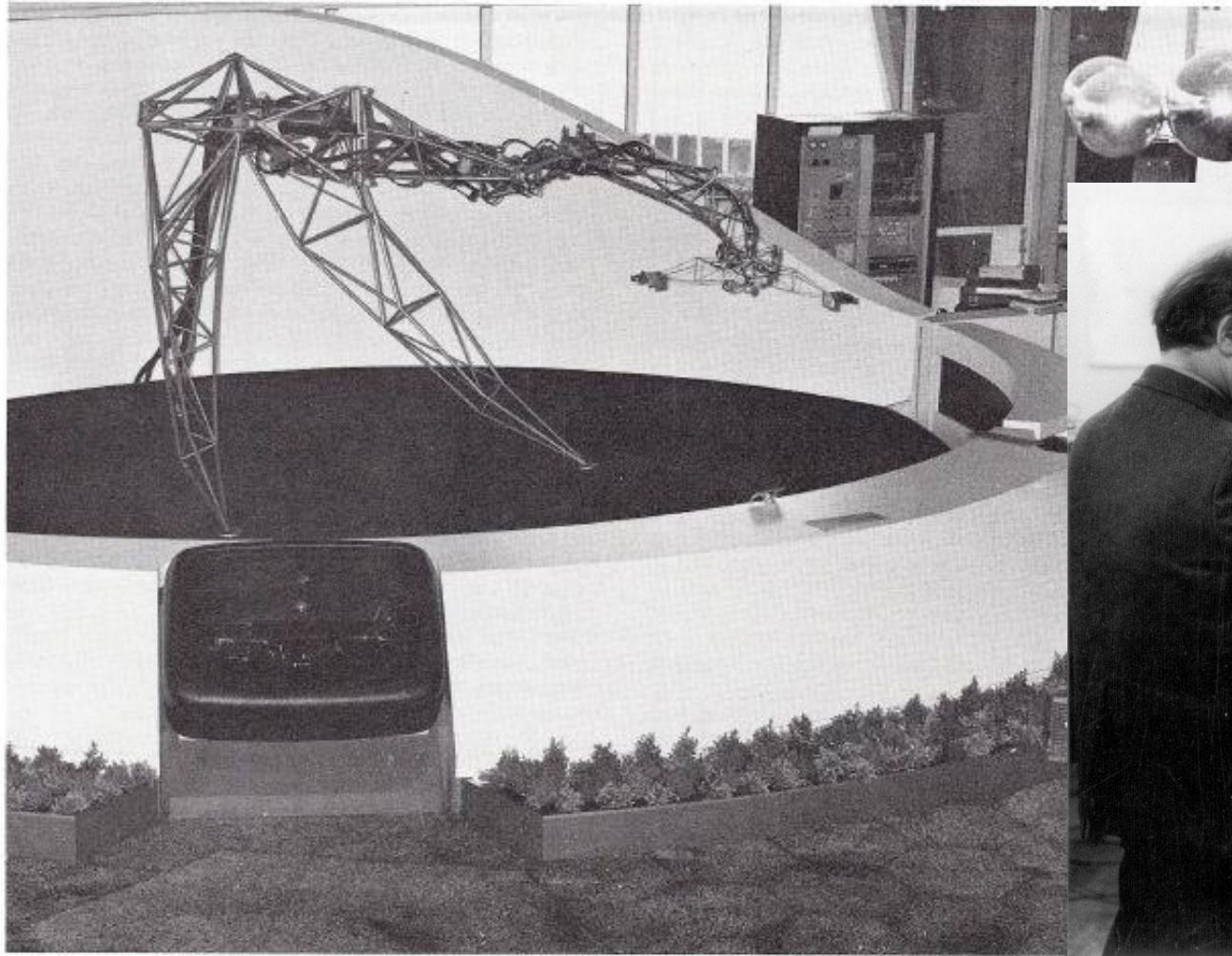




“Supposing, for instance, that the fundamental relations of pitched sounds in the science of harmony and of musical composition were susceptible of such expression and adaptations, the engine might compose elaborate and scientific pieces of music of any degree of complexity or extent.”

Ada Lovelace

Ada Lovelace predicted computational creativity?



Edward Ihnatowicz, creator of the *Senster* (1970)

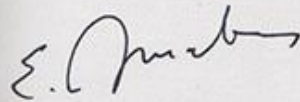
Introduction

People seem to have been fascinated by the idea of robots not only long before they existed but long before any practical means for constructing them were available. This is a different fascination from that which people have always had for ingenious and intricate mechanisms. With robots our interest is less in the precise details of their construction than in the role for which they have been designed or which we may imagine them performing.

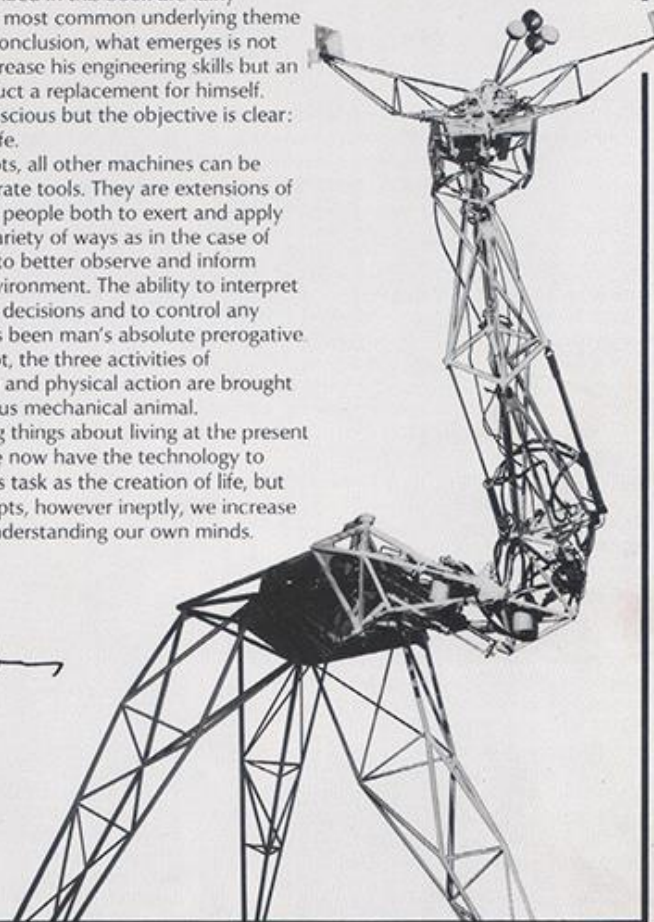
Most of the robots described in this book are fairly simple. Yet if we take their most common underlying theme or objective to its logical conclusion, what emerges is not merely man's efforts to increase his engineering skills but an obvious attempt to construct a replacement for himself. The desire may not be conscious but the objective is clear: it is an attempt to create life.

In comparison with robots, all other machines can be seen as more or less elaborate tools. They are extensions of the human body, enabling people both to exert and apply more power in a greater variety of ways as in the case of engines and vehicles, and to better observe and inform themselves about their environment. The ability to interpret such information, to make decisions and to control any resultant action has always been man's absolute prerogative. But now, in a modern robot, the three activities of observation, interpretation and physical action are brought together in one autonomous mechanical animal.

One of the most exciting things about living at the present time is that not only do we now have the technology to attempt such an audacious task as the creation of life, but that in making such attempts, however ineptly, we increase our chances of one day understanding our own minds.



Edward Ihnatowicz



Edward Ihnatowicz, creator of the *Senster* (1970)

Robots: Fact, Fiction + Prediction**Jasia Reichardt**

p56, Thames and Hudson, 1978

Edward Ihnatowicz's cybernetic sculpture *The Senster* was constructed in 1970 for Philips' Evoluon in Eindhoven. It is a large electro-hydraulic structure whose form is based on that of a lobster's claw, with six hinged joints allowing for a great range of possible movements. When in motion, *The Senster's* behaviour is completely unexpected because it is so close to that of an animal that it is difficult to keep in mind the fact that one is in the presence of a machine. It is as if behaviour were more important than appearance in making us feel that something is alive.

The Senster reacts to its environment through two types of input: sound channels which pick up directional sounds, and a radar system which watches the movements of visitors walking around. The mechanics of *The Senster* – the actuators, pipelines, and wiring – are readily visible and form a part of its visual structure; a hydraulic system, which was chosen because it is quiet and facilitates fast and accurate movement, supplies the power for the independent movement of the joints. Each of the activating mechanisms forms a closed electro-hydraulic servo-system which responds to the analog signals from the control unit. A computer co-ordinates its activities, translates the input signals and instructions and modifies the behaviour of the sculpture according to past experience and current contingencies. An important part of the interface are the so-called 'predictors' which determine the accelerations and

decelerations required for the most efficient movement of the claw.

The Senster elicits from people the kind of reactions that one might expect when someone is trying to communicate with another human being or an animal. It comes close to the sort of robot which we could imagine must have feelings because it behaves like creatures that have them. Ihnatowicz's work of the past four years at the Department of Mechanical Engineering of University College, London, has concentrated on designing an autonomous manipulative system (see chapter 'To work! To work!'), but his next sculpture is likely to demonstrate even more accurately the pattern of behaviour which is animalistic rather than mechanical in character. It is possible to envisage a sculpture which will have not only needs but also desires and which might even initiate a dialogue with the viewer rather than just respond to something that is already in progress. Innovation in the field of robotics could well come from art as well as from industrial robotics because the goals of art are not clearly defined and most intangible problems could lend themselves to its ad hoc methods. Whereas industry may find solutions to numerous finite problems through the use of multipurpose robots, it will not deal with effects, illusions or emotive principles which belong to art. Art, which results in physical objects, is the only activity that represents the half-way house between the regimentation of technology and the pure fantasy of films and literature; and only in the name of art is a robot likely to be made which is neither just a costume worn by an actor, nor an experimental artificial intelligence machine, nor one of the many identical working units in an unmanned factory.

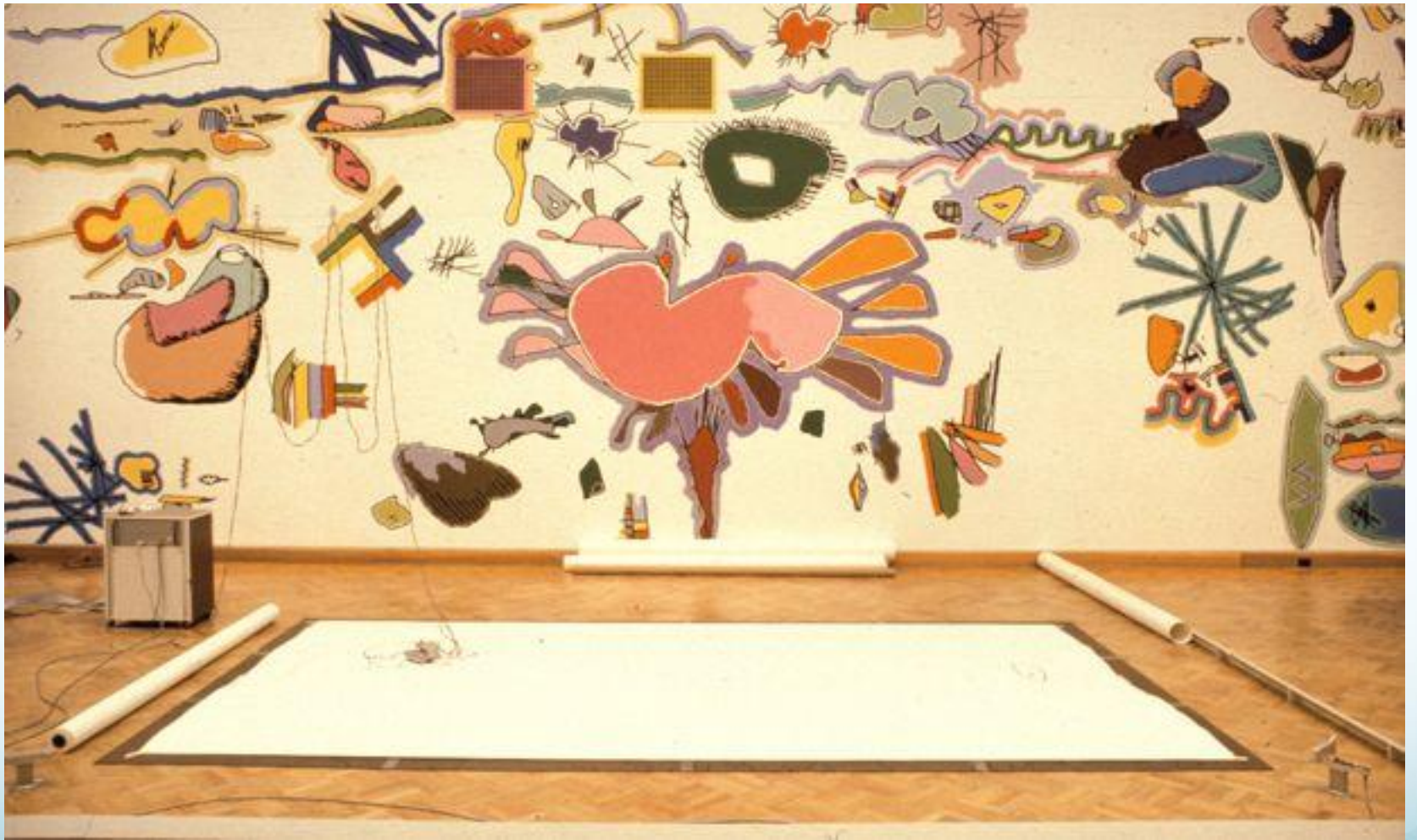
Edward Ihnatowicz, creator of the *Senster* (1970)



Harold Cohen (d.2016) and AARON



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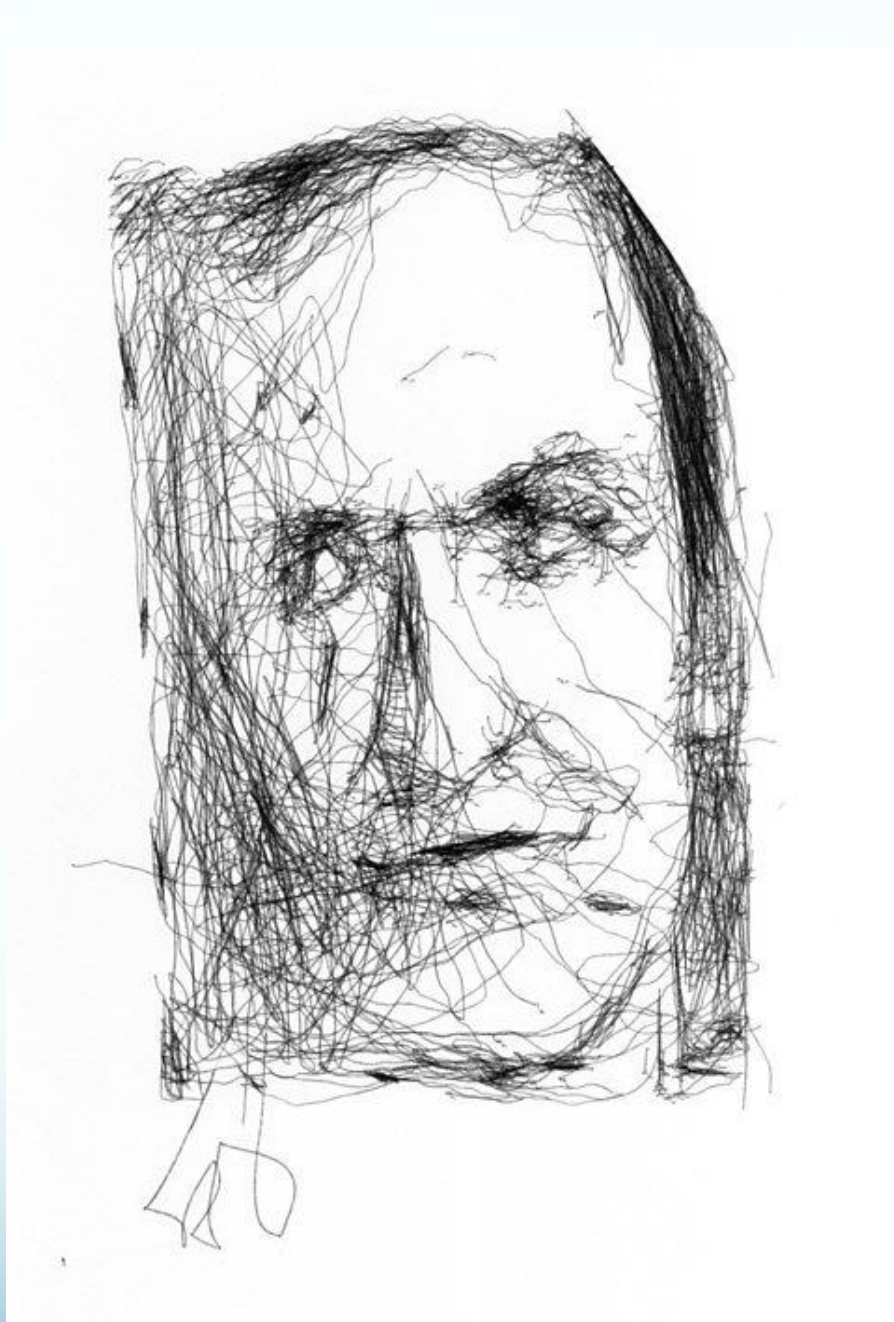
Harold Cohen (d.2016) and AARON



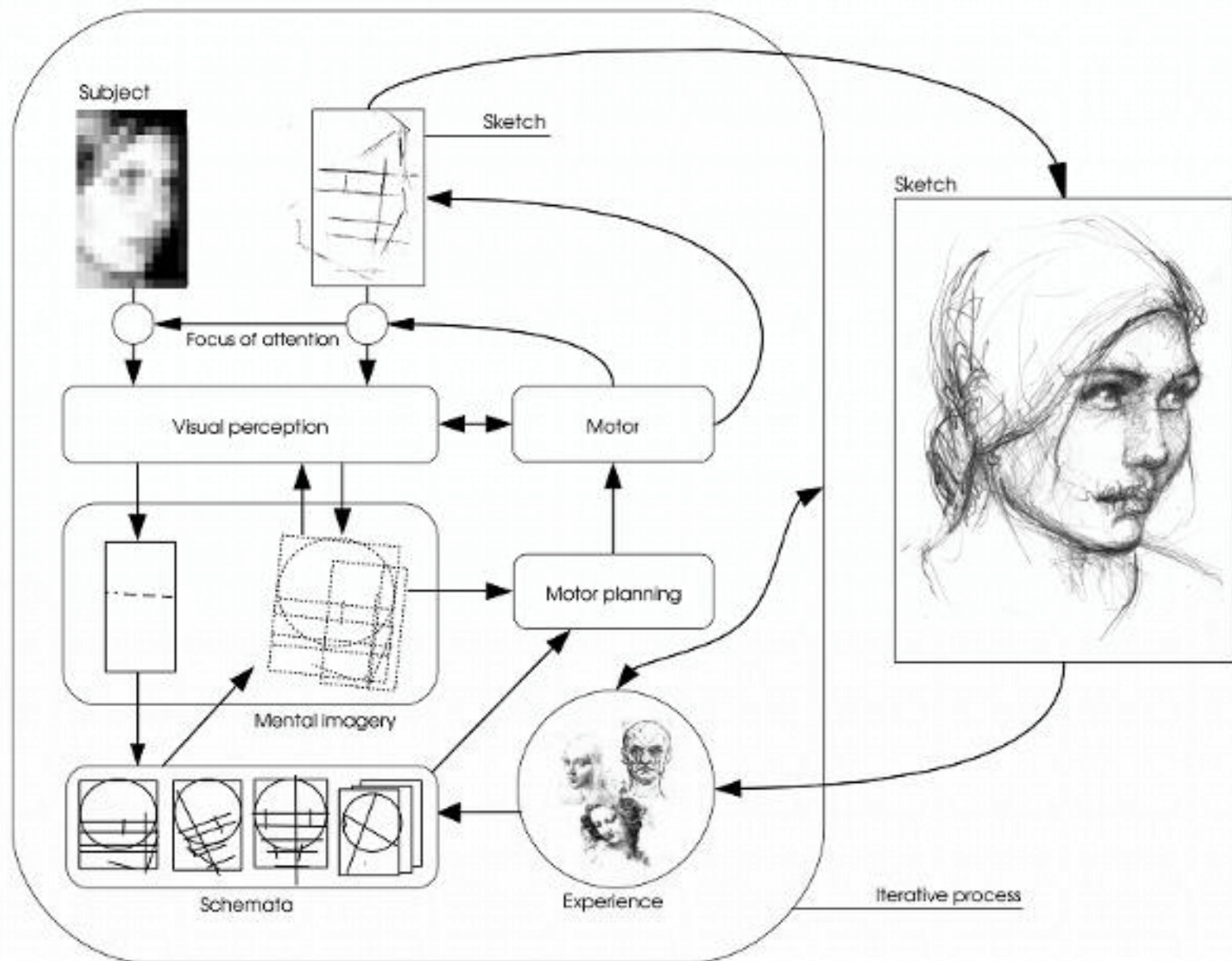
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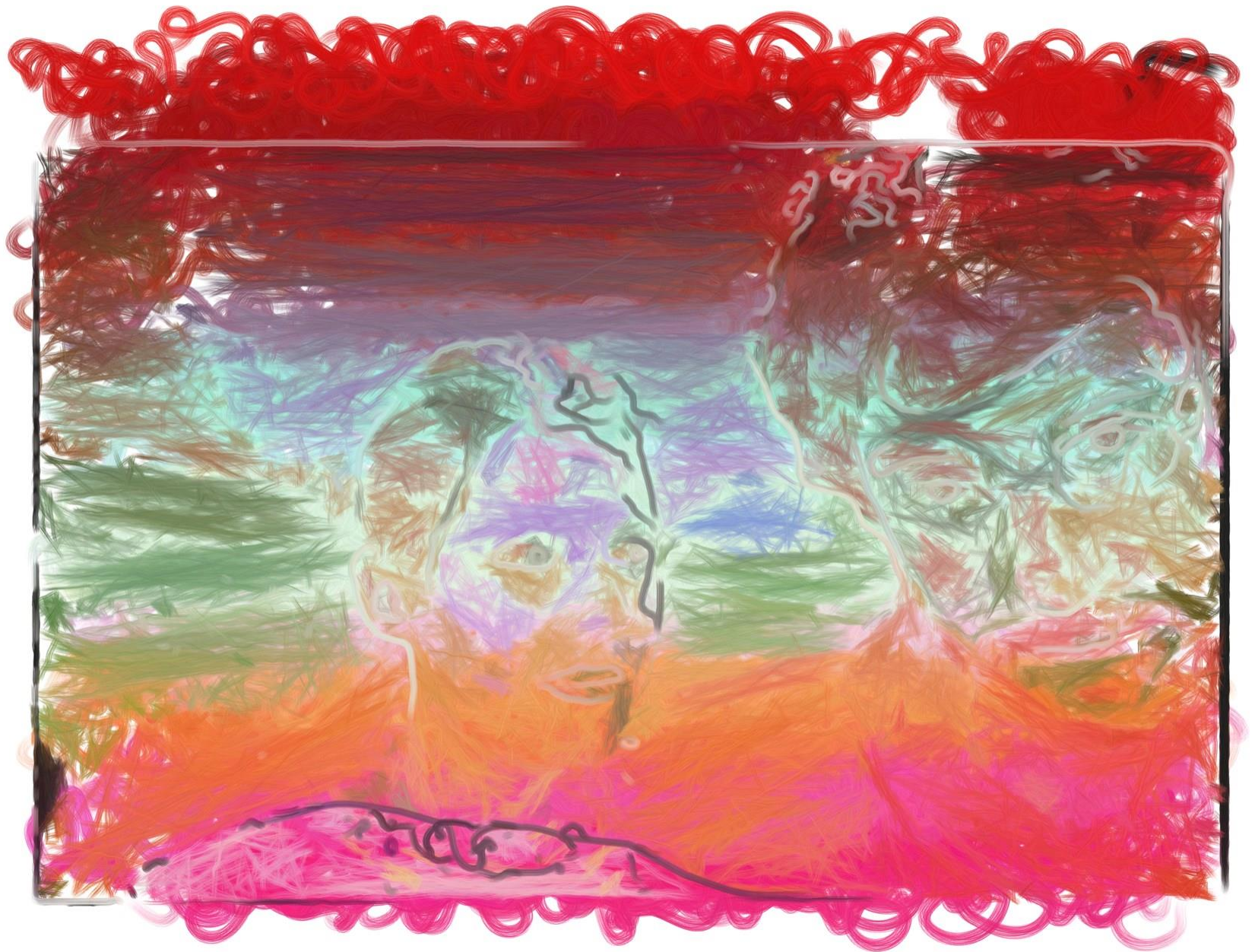
Patrick Tresset and Paul



Patrick Tresset and Paul



Patrick Tresset and Paul



Simon Colton – “The Painting Fool”

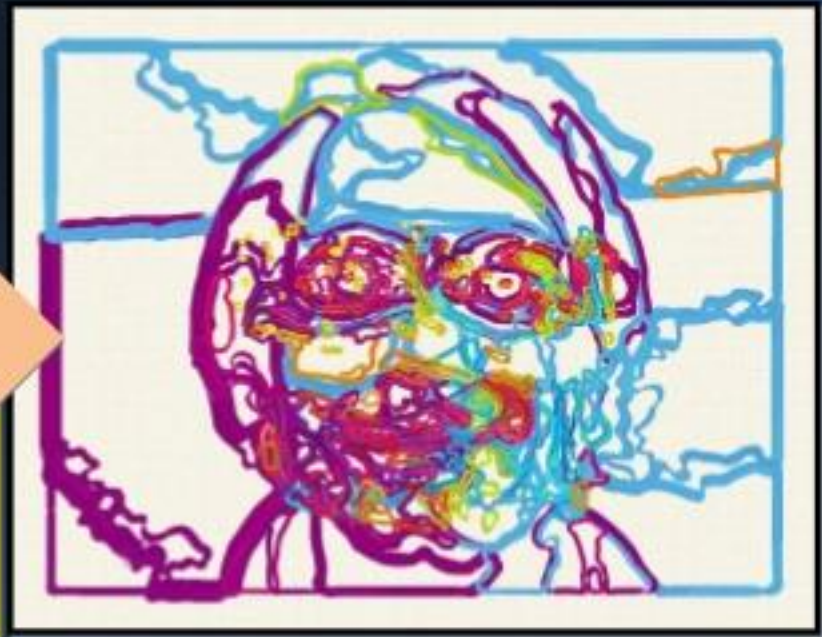
Simon Colton's *Painting Fool* system aims to produce more conventional, less mathematical forms of visual art, simulating a wide variety of media (*canvas, paper, ink oil, acrylic, pencil, pastel, charcoal*) and tools (*pens, pencils, brushes and stroke styles*).

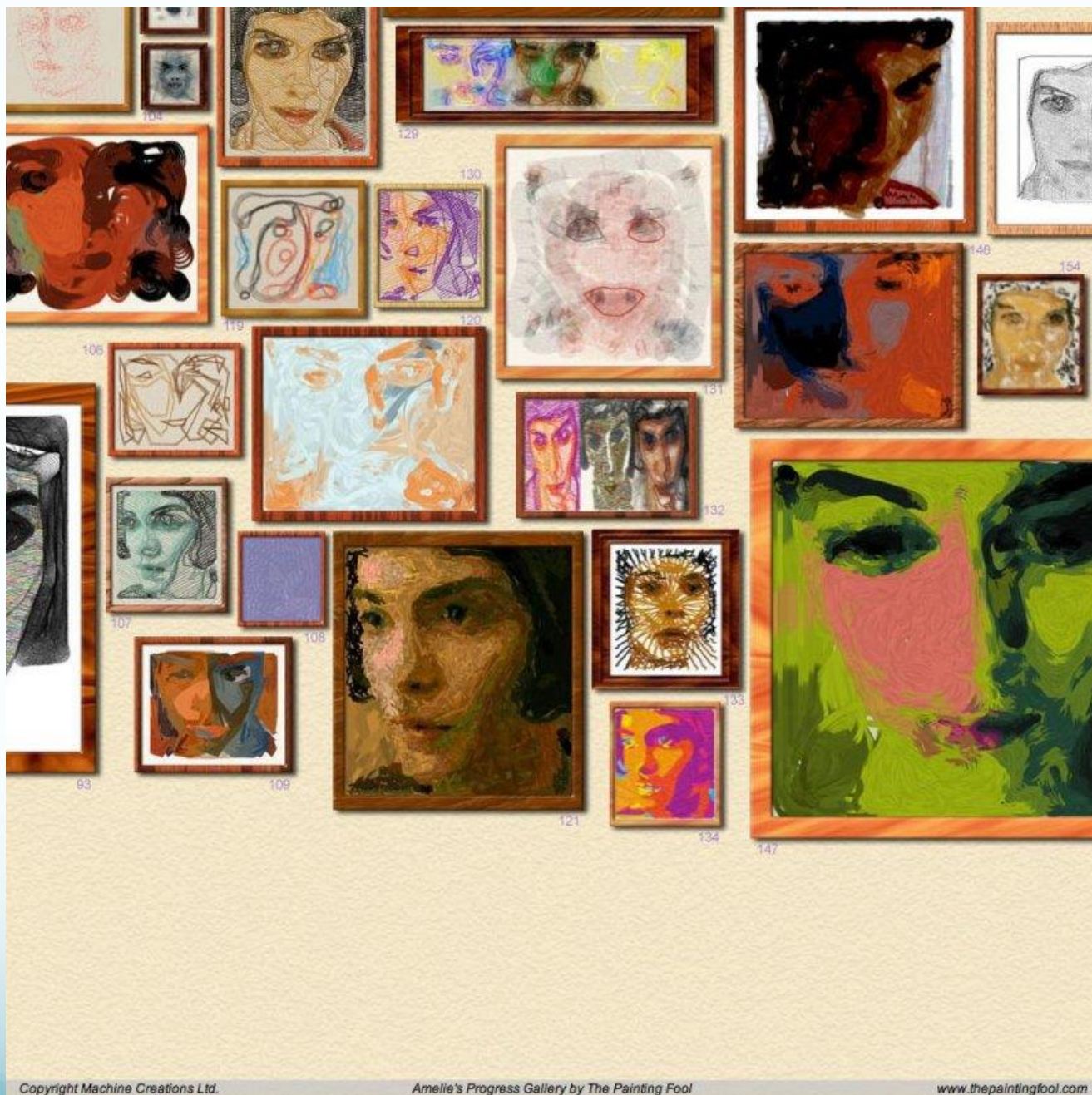
The Painting Fool typically begins with a digital image or a live video grab, and uses this **pixel map** as a **guide** to producing a corresponding painting.

The Painting Fool uses a variety of user cues (such as **simple affective analysis of the user's mood**) to make artistic choices and yield a non-deterministic choices.

Portrait of the Artist's Owner As A Young(-ish) and Strange Man

-- **Simon Colton's** *The Painting Fool*





Simon Colton – “The Painting Fool”