Could an AI System Be an Artist?
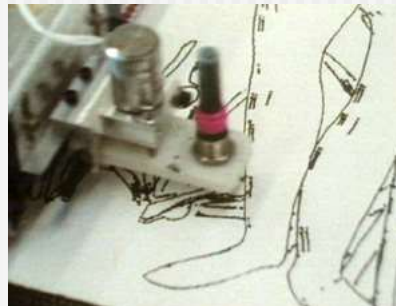
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AARON: Machine Painter

Image slides by Jamie Kempema and Charlie Kimball; technical additions by D. Leake

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What is AARON?

- An AI program written by Harold Cohen that generates original art
- Written in Lisp
- Evolved through 4 Major phases beginning in 1973

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AARON Mural (1979)

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Mural for Capitol Children's Museum (1980)

6

Liberty and Friends (1985)

7

Meeting On
Gauguin's Beach
(1988)

8

Two Friends with Potted Plant (1991)

9

Aaron, with
Decorative Panel
(1992)

10

Theo (1992)

11

Standing Figure with Decorated Background (1993)

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Two Women with Decorated Background (1994)

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AARON's Knowledge

- What knowledge would Aaron need?
  - Knowledge of external-world objects
  - Knowledge about representation-building processes

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Declarative knowledge

- "left-upper-arm, torso, etc. -- each of which is a list of all the points in that part, with the position of the point in relation to the origin of the part."
- E.g., origin of "left-upper-arm" is "left-shoulder", and "left-elbow" is at some position in relation to it: so much below, so much to the left, so much in front"

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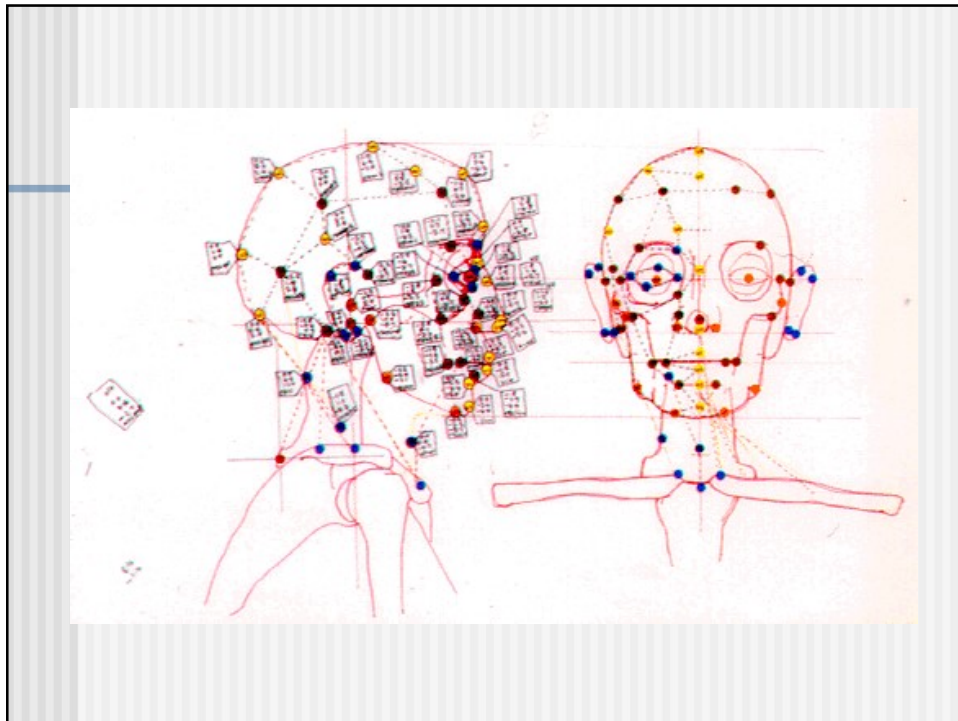
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Rules

```
if (left-arm-posture is "hand-on-hip")
    (add-upper-arm left -.3 .5 .65)
else
if (left-arm-posture is "arms-folded")
...
```

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AARON's Composition

- Places objects from foreground to background
- Does not backtrack
- Uses depth-first search to decide whether to place more objects

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Is AARON A Success?

- How would we decide?
- Aaron's art is recognized as art by critics
- Cohen: If it is not art, what is it?

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Sources

- How to Draw Three People in a Botanical Garden, Harold Cohen
- Coloring Without Seeing: a Problem in Machine Learning, Harold Cohen
- The Further Exploits of AARON, Painter, Harold Cohen
- Who or What Is AARON?, http://www.usask.ca/art/digita_culture/wiebe/aaron.html

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