Contradictions

Paul Cohen

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One creates and accumulates contradictions throughout life. This makes it hard to tell an unequivocal story about a person afterwards. One of the truest things I can say about my father, Harold Cohen, is that he was contradictory and contrarian. I would say, "So it works this way..." and he would say, "No, it's a bit more complicated than that." At other times, he'd insist that the algorithms he invented – for freehand lines, color and composition – were remarkable for being simple. Complicated or simple? This isn't a question about the algorithms, nor about their implementations in code, but about the story Harold wanted to tell about them.

The domain of contradictions is stories, the domain of objective contrasts is facts, and to understand Harold's work and his contributions, one must separate the two. I don't know whether Harold could or even wanted to tease them apart. AARON's astonishingly sophisticated images arose from the interactions of simple algorithms. This objective contrast – sophistication from simplicity – must be distinguished from parallel contradictions that arose in conversation. When I would observe that AARON's complicated behavior emerged from the interactions of simple algorithms, Harold would usually say, no, it's more complicated than that. He wanted to tell a different story. One can chalk this up to contrariness, but I think the explanation is probably that when he talked and wrote about AARON, Harold conflated (not confused, but conflated) the program and its products with his decades of complicated and deeply sophisticated thinking about the program. Historians will have to sort these out.

Separating the Cohen-AARON project into distinct causal elements is reductionist. It's how I work. I wonder whether other coloring algorithms might have been just as lively, whether AARON's compositional heuristics tapped into something deep about human perception, whether any line that appears to be drawn by a human is inevitably evocative. Harold was too keen a thinker to not ask such questions, and he experimented incessantly. But he contradicted every suggestion that art is like science. The fundamental difference between them, which I think Harold learned from me, is that scientific results are independent of scientists. Penicillin – discovered in the year that Harold was born – did its job whether or not Fleming was standing by. Harold refused to imagine a similar independence between himself and AARON, despite obvious evidence that AARON could have been different, indeed, was different from one month to the next. Harold didn't want to write himself out of the story:

> The very success of the program in fact led to the biggest personal crisis for me in many years. I'd spent all those years trying to increase the autonomy of the program; it could already do all its coloring without my intervention, now it could do all its drawing too. The problem wasn't that there was nothing left for me to do – there was still much for me to do; trying to figure out how AARON could assess its own work, for example. But you can't change the subject in the middle of a dialog, and I felt that my dialog with

> the program, the very root of our creativity, had been abruptly terminated.[1]

Harold thought he was the only person who could have made AARON. He would have contradicted this assertion unless he thought it a compliment, and I can't prove it, but consider the evidence: Harold wrote about AARON being autonomous but he resisted having AARON learn and he reduced AARON's autonomy over time; he would not allow anyone unrestricted access to the code, that is, he would not contemplate an experiment in which another person worked with AARON; and, although his early writing asks scientific questions about the conditions under which marks on paper function as evocative images, or coloring is possible without seeing, his later writing is largely autobiographical. I think his story about dialog with the program is a facile solution to contradictory stories – AARON is creative, no, AARON's creativity derives from Harold – rooted in Harold's assumption that he was necessary. I think that Harold saw AARON as his most significant accomplishment – his claim to uniqueness and greatness as an artist – as *his*.

Harold was so close to inventing the science of art, but he failed because he could not write himself out of the picture, as scientists must. There has never been an apparatus so capable of answering questions about art as AARON was, but Harold made all the answers conditional, dependent on him; AARON was like a thermometer that worked only for him.

> It was wrong, I began to suspect, to divvy up the credit for creativity, giving some to me and some to the program. Creativity – this particular example of creativity – lay in neither the programmer alone nor in the program alone, but in the dialog between program and programmer; a dialog resting upon the special and peculiarly intimate relationship that had grown up between us over the years.[2]

Early in the project, Harold said he built AARON to explore the processes of making art. He wanted to demystify art. But by making himself indispensible, he just pushed the mystery back a step: Now scholars must explain not only how art is made – a venture that might have been aided immeasurably by an apparatus like AARON – but also the "special and peculiarly intimate relationship" between Harold and AARON.

Harold Cohen, *sui generis*.

[1] Harold Cohen, Driving the Creative Machine. Orcas Center, Crossroads Lecture Series; September 2010. `http://www.aaronshome.com/aaron/publications/orcastalk2s.pdf`.

[2] *Op.Cit.*