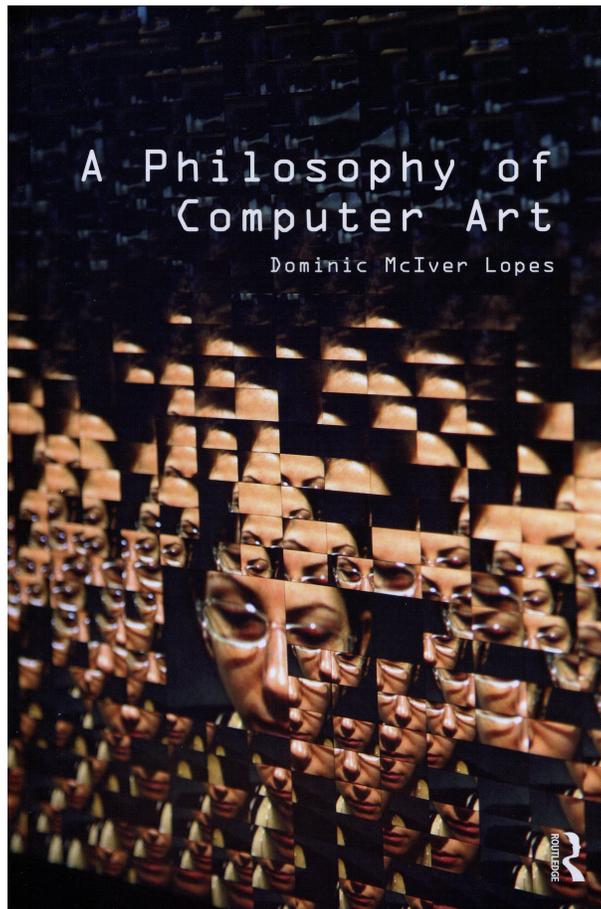


**Reviewed:**

***A Philosophy of Computer Art by Dominic McIver Lopes***

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*I wrote the below review about two months after doing a video interview with Dominic Lopes. So the review has the benefit of considerable exchange—and considerable exchange of email—with Dr. Lopes. I wish that, during the video interview, I had been able to raise the criticisms that I raise in the review. But I had not yet really formulated these criticisms very well when I did the video interview.*

**T**here's a sense of excitement about computer art in Dominic Lopes's book *A Philosophy of Computer Art* (Routledge, 2009) that he communicates at the outset: "Few generations in all of human history have been lucky enough to witness the birth of a new art form" (p. 1). But he doesn't gush and the book is actually a model of clarity in art criticism. It's readable, clear and well-reasoned, as we would hope for in a book of philosophy. But it's also got the human touch; it's not remote.

One of the things he does is convince us that the term "computer art" has its advantages over the more generic term "digital art" as the one we should use to refer to art in which the computer is crucial as medium. What does he mean by "medium"? He says "a technology is an artistic medium for a work just in case its use in the display or making of the work is relevant to its appreciation" (p. 15). That's the best definition I've read of "artistic medium".

Perhaps the greatest contribution the book makes is in giving us a different way of writing about art than we have seen before. Or at least I hadn't. Just what that way involves is something I want to get at in this review. But, also, I'd like to cover what I see is the book's major flaw. The flaw is significant, but doesn't sink the book. Partly because the different way of writing about art that the book represents and develops is clearly going to have some impact via further writing—perhaps by Lopes, perhaps by others—of more books that take the form and method further concerning philosophies of computer art or other arts. Lopes seems to be aware of the preliminary nature of the book. The book may turn out to also be 'seminal'.

In the book's second paragraph, he says:

This book's title announces its topic as "computer art" rather than "digital art," and the choice of words is deliberate. As I'll explain, computer art isn't the same as digital art. Moreover, computer art is a

new art form and digital art is not  
(p. 1)

This distinction between digital art and computer art is important and one that those involved in both fields need to understand and appreciate. Here is his definition of digital art:

An item is a work of digital art just in case (1) it's art (2) made by computer or (3) made for display by computer (4) in a common, digital code.  
(p. 3)

This would include many digitized movies, digitized photographs and so on. It would also include scans of traditional paintings where the scans have been scanned to display them on monitors/computers. If the scans were not made to display the scans on computers (but to print them out, say), then this definition probably wouldn't describe the scans as 'digital art'. But the important thing is that this definition of 'digital art' is quite broad and does not, in the least, attempt to describe a notion of computer art any more significant than traditional paintings scanned. We all can grant that such stuff can be 'digital art', but I think, equally, we would all disagree with the notion that such things have any significance as computer art: whatever artistic significance the paintings may have, computers are totally irrelevant to it. But how might we define 'computer art'? Here is Lopes's definition:

An item is a computer art work just in case (1) it's art, (2) it's run on a computer, (3) it's interactive, and (4) it's interactive because it's run on a computer  
(p. 27)

This definition could hardly stress the importance of interactivity *more*. The problem is that there are types of art that we surely should describe as 'computer art' that are *not* interactive. A great deal of 'generative art' is not interactive. For instance, AARON, which Lopes discusses, is a computer program written by Harold Cohen that somewhat autonomously draws/generates pictures. It is not interactive with the audience at all. But surely we should describe this program as 'computer art' if, by that term, we mean art in which the computer is crucial as medium.

Consequently, I think we have to conclude that Lopes has written a philosophy of *interactive computer art* because his definition of computer art limits it to a range that computer art itself is not, in fact, limited to. But Lopes's book is quite good as a philosophy of interactive computer art. That does have value. Interactivity is a very important characteristic of some computer art, a characteristic that often does move us to want to describe a piece as 'computer art'. So many people seem to want to describe digitized movies or just anything with animation, or just email, as computer art if it appears on a computer screen. It's refreshing to read a book where some attempt is made to think of characteristics that are important to computer art. Interactivity is often such a characteristic. But interactive computer art, nonetheless, is a subset of computer art.

Here is how Lopes defines interactive art:

A work of art is interactive to the degree that the actions of its users help generate its display (in prescribed ways)

(p. 37).

And here is his definition of user interaction:

A user interacts with a work of art just in case he or she acts so as to generate its display in a prescribed manner  
(p. 37).

The term 'interactivity' is thrown around to mean many things, in discussions of art, but Lopes's discussion is useful in pointing out that computer interactivity is not simply a matter of the user's experience changing according to her input or interpretation, but the *display of the piece itself changes/reacts* to the user's input.

Also, he acknowledges that interactivity is not new to computer art. For instance, we can imagine plays in which the actors improvise based on interaction with the audience. But improvisation based on interaction with the audience isn't the basis of a whole art form. Whereas *it is* in interactive computer art.

If Lopes's definition of computer art limits the book to expressing a philosophy of interactive computer art, we might ask how the definition could be broadened to encompass the full range of the sort of works we generally regard as computer art.

Now this is one of the situations where some familiarity with the theory of computation comes in handy. Lopes is commendable in pointing out "what a little philosophy can do" (p. xi) for critics and fans and thinkers about computer art in his book. But he is not a computer scientist. Here is what a little computer science can do.

What separates computers from other machines is programmability. Programmability is what gives computers their radical flexibility, as machines. Flexibility to the point that there is no proof, and probably never will be, that there exist thought processes of which humans are capable and computers are not. Which is to say that programmability provides flexibility, very likely, to the point of the dynamic fluidity of thought.

So what we need in a definition of computer art is something that goes to the heart of programmability or the dynamic fluidity and power of processing afforded by programmability. Sophisticated interactivity in machines is possible because of programmability. Without programmability, interactivity has to be very limited. It's the difference between interacting with a Coke machine and a contemporary computer. The computer is capable of an ever-changing range of decision-making, whereas the Coke machine is, well, still the Coke machine. Programmability turns computers into universal machines. What that means is that a computer can accomplish any task that any machine can do that operates by executing algorithms. And that seems tantamount to saying that a computer can accomplish any task that any conceivable machine can accomplish (though some computers are slower than others).

Interactivity is supported by programmability, and so is generative art and whatever the full range is of computer art. Such a philosophy will be a bit trickier, though, than one that simply depends on interactivity. Trickier, but accurately broader. A different book.

One of the valuable things Lopes does is destroy several common but muddy arguments against the value of computer art. For instance, he looks at the argument that interactive art—particularly if it's game-based—is incongruent with meditation, and with meditative art. The argument we sometimes hear is that interactive computer art demands continual

engagement that prevents meditation. Just like a computer game demands attention to the details of the interaction, thus preventing meditation on the larger picture.

Lopes points out that the sort of meditation the critics value can take place between playings. And that we commonly do this concerning our thinking about games. Think of the meditations that have been written about chess or baseball, hockey, or soccer. These weren't worked out during play. But that didn't stop them from being written and from being meditations.

Speaking of games, Lopes has interesting things to say about the relation of computer art to computer games. He sees many computer games as computer art, as you might infer from his definition of computer art. He sees computer games as being the most popular form of computer art. Of course it doesn't have to be Sophocles to be art. And, to his credit, he doesn't buy the argument that because games are entertaining they can't be art. Lopes likens the place of the very popular computer games within computer art to the place of Mozart's chamber music within music or Calatrava's PATH within architecture.

Another flaw in the book—though less important than the previously mentioned one—is that Lopes states, early on in the book, that "The challenge for the rest of this book is to demonstrate that the invention of computer technology gave us a new art form. Not digital art but computer art" (p. 19). But he never demonstrates this. He acknowledges he hasn't done it in the book's last paragraph. However, he has talked about interactive works enough, through the course of the book, that most of us, I suspect, will be fairly convinced that interactive computer art is a new form of art. Convinced by Lopes's talk of it and our own experience of such work. But even if we're not, what we wanted was a philosophy of computer art (whether it's a new form of art or not). And what we got is a philosophy of interactive computer art. So we don't care so much whether he established that computer art is a new art form. We're happy to have the philosophy of interactive computer art, but wish he could have expanded it beyond interactive works.

That said, it's a landmark book in that, finally, we have a philosopher creating a philosophy of computer art. It proceeds by a few very clear and rigorous definitions. Definitions of terms such as "digital art", an "appreciative art kind", a "medium", a work of "computer art", "interactive", "computer", and a few others. The definitions are used thoughtfully and structure the book.

This is the main value of the book: it is admirably well-reasoned, even presenting us with a way to write about art that is more rigorous than usual, while not lacking the sort of human touch that is always needed in writing about art. It's in this combination of factors that the book might turn out to be seminal. It's an exciting and significant read for anyone interested in thinking seriously about computer art.

The poet William Carlos Williams once said, in the 1950's, that "a poem is a machine made out of words". The time during which he said it—before computers became common—makes the remark especially interesting. What I want to suggest is that Lopes's rigorous definitions of a few terms builds a kind of machine made out of words. That has both a philosophical and a game-like quality to it in that we are interested in what the consequences of the definitions are, what they lead to. We are interested to chase down, infer/deduce the consequences. And that is a game-like activity that's playful. Which is not out of place here, given Lopes's take on the place of computer games in computer art and the place of logic in philosophy.

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## End Notes

- Check out Lopes's site ([lopes.mentalpaint.net](http://lopes.mentalpaint.net)) for further information on *A Philosophy of Computer Art*; it contains links to works (usually documentation about them) discussed in the book, a précis of the book, links to reviews, and links to order the book.
- Here is a video of the interview of Lopes I did at Sid Tafler's house in Victoria: [vispo.com/writings/essays/video/lopesandrews.mp4](http://vispo.com/writings/essays/video/lopesandrews.mp4)
- This review was originally published on the (no longer existing) CIAC web site in Montréal.