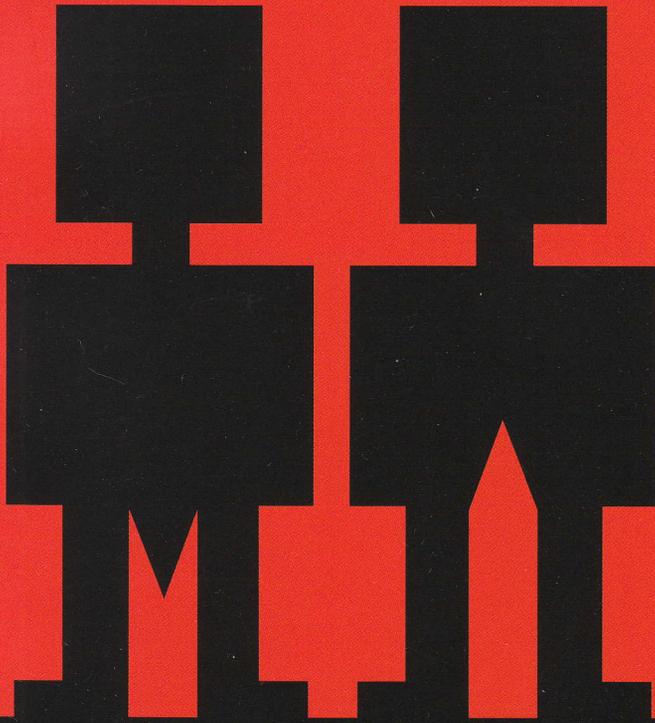


**RE**  
**SEARCH®**

monochrom

# pr0nnovation?

Pornography and Technological Innovation



**monochrom's Arse Elektronika Anthology**

Edited by Johannes Grenzfurthner, Günther Friesinger, Daniel Fabry

**Peter Asaro & Katie Vann** / Transcription of a discussion of *Love Machine* (2001) with Peter Asaro and Katie Vann at Arse Elektronika 2007.

***PORNOMECHANICS***

**SEX ROBOTS AND THE MECHANISMS OF LOVE**

Peter Asaro is a philosopher and filmmaker. He is currently a fellow at the Center for Cultural Analysis at Rutgers University in New Jersey, where he also teaches in the Philosophy Department. His research concerns the construction of synthetic minds and embodied robotics, their social and practical contextualization, and their implications for our social, moral, legal and conceptual frameworks.

Katie Vann is a social theorist and organizational ethnographer currently working with the Virtual Knowledge Studio for the Humanities and Social Sciences in Amsterdam. Her research questions the cultural and institutional technologies that underpin neo-liberal sociality and political-economic order.

Their conversation at the 2007 *Arse Elektronika* followed a viewing of the documentary *Love Machine* (2001), written and directed by Peter Asaro and Doug Matejka. The film looks at the potential future development of a 'love machine,' capable of engaging not only in sex with a human, but other elements of love and relationships as well.

**KV:** Thanks for coming everybody. Peter asked me to join him today to discuss his film. We've been friends since we met a year ago in Amsterdam. I've seen the movie about three times now. I really enjoy watching it, and every time I watch it I come away from it with a new set of questions. And today, what I'm perplexed about, what I'm going to lose sleep over tonight, is, if I ever have an opportunity to have sex with Manuel Delanda while he's in a monogamous relationship, I'm not sure whether I should fake an orgasm, or pretend that I'm not having one.

**Doug Matejka** (voice behind camera): Could the mechanization and the technology ever get so sophisticated that you would ever consider sex with a robot, within a relationship, cheating?

**Manuel Delanda:** Well I suppose it would be the emergence of an orgasm. Right? I'm not exactly sure this applies to all men, but to me one of the major turn-ons, when I'm having sex, is giving a woman an orgasm. To me it is extremely important, not as an obligation, or as a way of proving my manhood, but simply as part of the experience. It is a major turn-on to see their faces when they are in bliss. Just like anger as an emergent emotional state, would not have to depend on a specific neurophysiological state, but if you can tease it out of silicon it would be anger, If the machine can have an emergent orgasm, At that point, you would definitely be cheating.

**KV:** For starts, Peter, I'd like to ask you about relations between *Love Machine* and the *Manifesto* that introduced the problematics to be explored in this weekend's *Arse Elektronika* conference.

**Johannes Grenzfurthner/monochrom** (conference organizer): Today a new technology's success with porno consumers is a dependable indicator of the product's overall market potential. Currently, all factors show that high-tech developments like virtual reality owe a great deal of their success to the need for further sexual stimulation. One could cite the example provided by the science-fiction concept of a full-body interface designed to produce sexual stimulation. But it isn't science fiction anymore. Is it going too far to assume that research in nanotechnology and genetic engineering will be influenced by our sexual needs? The surgical modification of sexual organs is no longer something very unusual. The question is not whether these technologies alter humanity, but how they do so.

**KV:** The *Manifesto* focuses our attention on the effects of emerging porn technologies on humanity. Sexual technologies come into being, they alter humanity, and our question ought to be one about how this alteration occurs. And yet the

emphasis of your film seems to me to be slightly different from this. It reads more as a study of the production of technologies for sexed activity, and asks how are human practices altering technologies for sex? Certainly production and consumption are reciprocal and entangled in interesting ways, but *Love Machine* gives emphasis to the former, and is most focused on the conditions of the artifacts' fabrication as such. I was hoping to get you to talk a bit about how you see the landscape of the philosophy of technology and the philosophy of robotics in terms of these different modes of inquiry – of fabrication versus consequences. Where do you locate yourself within that landscape? And why is it important to look at production?

**PA:** That's quite a question! Let me break it down a bit. There are many different aspects of production and reproduction in the film, and these were central themes. One of things I was trying to achieve was a certain juxtaposition of industrial production and sexual reproduction. But rather than a 'baby factory' in the spirit of *Brave New World*, I wanted to look at how industrial production was inserting itself into human sexuality, and the materiality of those processes. Another aspect is creative production more generally, and how it touches upon sexuality and the psychology of desire and attraction. So you have Hans Moravec who sees art as a form of sexual display to attract mates, and Mario Saucedo who sees art as an extension of his sexuality, and Cynthia Breazeal who has become the nurturing mother to her robotic creation. In each case we see artifacts inserting themselves into what we might otherwise call the 'natural' matrix of human psychological drives toward sexuality and reproduction.

**Cynthia Breazeal:** It's very lovable. People are very different, of course. Some people are so 'into' the robot, and other people are like 'Yeah it is kinda cool.' So there's a lot of variation in there. But most people, I think, find it compelling. As far as its behavior, how it moves and so forth. A lot of it is really because of the way it responds to you and interacts with you. It has a very strong presence, which is hard to achieve. I mean, there's a lot of robots that are cool as engineering feats, but you don't think of them as having this kind of presence, which might be associated in a living system with that spark-of-life. But I think KISMET is beginning to capture that. Yes, you are!



Manuel Delanda / Cynthia Breazeal / Industrial robot

**PA:** Production was also the theme that led me to make this film. The idea first came to me when I was visiting a friend in Bloomington, Illinois, who actually operates the big red Amada sheet metal pressing machine that is in the film. I was staying with him, and in the middle of the night he had to go and change the stack of sheet metal. It is like a big printer that stamps out these patterns in the sheets, which are then cut up and folded later. So we were in this factory in the middle of the night, and I asked him what they were making. And he says, 'Oh, they are orgasmatrons. Here is the piece that we make.' So I said, 'Wow, you are making orgasmatrons in Bloomington, Illinois, this is amazing!' And it was such a visually beautiful factory and the systems of production which exist in that factory were so fascinating, that it was something that I really wanted to capture on film. I was really surprised about how much manual labor, skill and craft was involved in building

these machines, and that the machines were intended to substitute for human hands and bodies and skills in some sense, but there was a complex relationship between humans and machines in the production process.

At the time I was writing a review of Moravec's book, *Robot: Mere Machine to Transcendent Mind* for the journal *Minds & Machines*. So I was really thinking about how to critically analyze Moravec's ideas. He has this capitalist model that equates evolution and markets, and he has a vision of the future of humanity with robots inheriting the Earth. His vision is really a kind of techno-theology. And he embraces it so enthusiastically, that he believes robots will be the next generation of human evolution. That is a very extreme view, but he's a working scientist, and he writes books about this that reach a large popular audience. I was myself working in computer science and philosophy, and saw other directions in which these technologies might develop, and how different people were promoting their different visions. So I really wanted to tell a story about who these people were, and why social and emotional robots were suddenly becoming so interesting.

**Hans Moravec:** I think human beings can be analyzed in those terms also, Humans have goals that are inherited from survival lessons from our past going arbitrarily far back, but a lot of it was as stone-age hunter gatherers. For instance one of the goals was starting a family, attracting a mate. So I think many of the things that especially males do, is due to that. Art and many other things, have a role of, basically, sexual display. So robots may not have that necessarily, unless somebody for some reason programs it in.

**PA:** The other theme that started to draw all these elements together was love, as the thing that was absent in all the discussions of sex, emotion and reproduction, and was completely ignored in academic artificial intelligence research. AI was always asking whether a machine could think, and trying to prove it by building such a machine. So, I wanted to ask whether a machine could really love, and try to see who was trying to build these kinds of machines and why. Most of the talks here at Arse Elektronika have been about sex as pleasure and self-gratification and play. Sex has additional cultural



Industrial robot / Hans Moravec / Monsignor Hallin

significations, though. It is fundamentally about biological reproduction, but also about human needs, relationships, and love. If you are going to build a machine that loves, it will need to address all of those things. And what does that mean? And even just building a machine that takes sex out of this context and aims just at pleasure, then in a way it is displacing these other roles that sex plays within culture. So reproduction is displaced, and replaced with a different cultural production. And it is a feature of capitalism that you have systems of production which are changing our relationship to craft, to the material world, and to our experiences of the world. When the art and skill of making things gets displaced, then the craftsperson is alienated from their labor. These love machines might be doing something similar and end up alienating people from the cultural meanings of sex and love which cannot be easily commodified.

**KV:** There is a lot of play in the film around copy culture, and you seem to be emphasizing the place of the industrial mode in all of this. It comes out in a literal manner through Delanda's comments about deskilling, but there's also an almost cinematic fetishization of copy culture in the film. Do you think that the industrial mode is prevalent in this realm and is this something you think will have consequences of the sort alluded to in the Manifesto?

**PA:** Yes, I think so. Once the systems of production start to operate, then they become channeled into these patterns of repetition and copying. So once a product becomes successful, then there are dozens of other manufactures trying to emulate its style and function, rather than trying to come up with creative alternatives. This kind of copying is not necessary, but it is very common. And of course the economies of scale favor standardization and making many identical copies, which changes that nature of the object created. If you look at Walter Benjamin's 'Art in the Age of Mechanical Reproduction,' the point is not that art is completely destroyed by reproduction, but it is fundamentally changed by the possibility of mass reproduction. And in some ways this is better, because we are no longer stuck with a mythology of the originality and authenticity of something's 'aura,' and we can start to look at other qualities as being what is important about artistic objects. We can see these ideas of art contrasted between the mass-production of the Sybian, and the aura of KISMET, which is the most 'alive' machine partly because of its uniqueness and authenticity.

There are similar assumptions about the organic and the mechanical and in thinking that there is something mystical about the organic, which is lost when we start to see ourselves mechanistically. So there is a demystification that could happen through mass production and copying. Are we threatened with losing this aura of sex and love by subjecting it to the industrial mode of production? This question really interested me, because I was not sure how to answer it. What does it mean to lose that organic wholeness of love and sex? How do we reconstruct our concept of who we are in light of that? What will it mean to love, and what will sexuality become?

**KV:** Do you have an anxiety about that?

**PA:** Yes, to some extent. I think I share all the perspectives of the people in my film to some degree, or at one time or another. Even though I'm not Catholic, I am worried about what the Monsignor has to say about whether science ought to do everything science can. Not that I want to be a Luddite or anything, but I would like to see technological development being genuinely progressive. It is just not clear what 'progress' really means. What do we lose, and risk losing, with a new technology? And what does it force us to take responsibility for that we did not have responsibility for before? New technologies give us new responsibilities that we never had before, and I think that is a challenge that we all have to address.

**Monsignor Hallin:** Science can do a lot of things. Of course, we've got a lot of this popular science, which young people in your generation are far more familiar with, and that is the generation of things like *Star Wars* and *Star Trek*, and all those kinds of things. You can think far beyond where we are. And, of course, every generation of human

beings has had to do that. That's been the way in which we progress. At the same time, the moral question is, 'Ought Science do, everything Science can?'

**PA:** I also feel a bit of that humanist tug from the two women from the Alliance for Childhood, who are concerned about what happens when we give kids robotic baby dolls, as surrogates for their parents spending time with them, or playing with playmates. Those are interactions that have been programmed by some software designer somewhere, maybe here in San Francisco. So now you are displacing parenting decisions, and childhood learning, to a corporation that is now responsible for these things. And people are busy and do not really have the time to check out every aspect of the software to see if it is going to teach their kids the kinds of lessons they want them to learn about the world. So now the corporation has a huge new responsibility, and parents have a new responsibility to figure out which is the best software to raise their child. Of course wealthy people have historically transferred these responsibilities to nannies, and baby-sitters and teachers, but those roles were filled by humans who might genuinely care for and nurture children, whereas corporations are driven by other motives which may only indirectly approach human nurturing.

**Joan Almon:** The relationship between children and dolls has always been a very strong and very intimate one.

Children do a lot of sharing with their dolls. The doll becomes a repository of a lot of their hopes and fears and wishes, and all sorts of things. It is not as acceptable for little boys; they have to share their soul with their teddy bear. Now, we have watched over many years as dolls get fancier and fancier. There are dolls out that speak and wet, do different things, drink from a bottle. But nothing has gone as far as the new robotic dolls. They seem to enter a space that was really reserved for an intimate relationship between child and doll. I found it even alarming, I would say, how the dolls can be programmed so they know certain things about the child. They know the child's name and birthday; they can be programmed to know the favorite foods of the child. So they simulate being someone who really cares about the child. And it feels like the invasion of a sacred space in childhood, the space between a child and the adults who really care about the child. And what does it do to the child's sense? Here's this doll that knows all this about me, but ultimately can not really share a heartfelt caring. And the doll, for all its sophistication, does not have a heart. And children are quick to sense, where is their warmth, where is their loving heart, who is just too busy, and can not be bothered.

**KV:** It is interesting to hear you cop to the humanistic aspect. I'd wondered if you were launching a critique of that or if in some sense you were using the ethnomethods of the folks working out there as a way of expressing an anxiety that you had in the first place. On this point of cinematic methodology, I also wanted to raise a point about some of the questioning strategies that you used in the interviews with folks from the AI community.

Over the course of the film there seems to be a kind of potential convergence happening between the production practices of the AI community and the production practices of the sex technologists – a convergence somehow captured or suggested in the title *Love Machine*. I really got this sense from my first viewing of the film. But as I went into the film transcript, I began to see that the potential convergence was actually being constructed, or hi-lighted, through the composition strategies through which the film emerges. Viewing the film from this perspective, it became more apparent that there are some

fairly stark differences between the two communities. On one hand, you have the AI folks who are focused on some fairly specific issues around capacities - 'decision making', 'intelligence', 'agency', 'intentionality' and so on – what Lucy Suchman might call forms of 'instrumental cognition'. In her book *Human-Machine Reconfigurations*, she suggests that even in the case of those theoretical experiments such as Brooks', which operate from the standpoint of a critique of the disembodied, rationalistic and individualistic assumptions of traditional AI, the work tends to leave the contemporary AI project 'firmly rooted in the humanist precepts of early modern technoscience'.

On the other hand, you have the sex technology folks, who by contrast are fairly preoccupied with pleasure and orgasm, which have their own instrumental dimensions, I suppose, but otherwise seem far afield from the problem-solving issues that preoccupies AI. The two communities don't seem to be engaged in precisely the same kinds of issues, at least not from the standpoint of the accounts that they give of what they're up to. I mean, Moravec doesn't address capacity for orgasm in his account of his work. It raises the question of whether sexed engagement would be presumed within AI circles to be a kind of sub-process of instrumental cognition in humans, so that once you've got the latter you've got the former and thus no specifically sexed vocabulary is needed to characterize it? Or is just that they are not interested in sexed engagement?

**PA:** There is a lot in there to respond to so I'll try to break it down a bit. There is definitely an ethnomethodological move being made. I think humans and technologies are highly flexible and open-ended, and will never be circumscribed by any particular theorization of them. And I agree with Suchman that there is a strange humanist move going on in AI. Even as it tries to get beyond its reductivist approach to instrumental cognition, by adding things like embodiment, emotion



Hasbro's *My Real Baby* / Joan Almon / Rodney Brooks

and sociality, it still puts these in a functionalist frame. Ultimately it wants humans to be rational, efficient, elegant and productive. Of course instrumental rationality runs into all sorts of problems, theoretically, environmentally, and perhaps emotionally and socially as well. Western thought is so heavily invested in this approach that it is sometimes hard to formulate things differently.

There are definitely different communities in the film, and multiple communities of design and invention. So there are the academic roboticists, but there are strong distinctions even within that community between the schools and approaches, and they have debates between each other about how to go about building systems.

One paradox is that AI is simultaneously reifying a certain conception of what it means to be human, and at the very same time it is undermining the notion that there are any essentially human characteristics. I think this is because AI needs certain human characteristics, like intelligence or emotion, to get off the ground, and once it is airborne, it hopes to throw

away the landing gear, as it were. When you look at the level of discourse at which they operate, about what is intelligence and emotion, there is a strange sense of humanism about how they theorize what it is to be human with psychological models and theories. Most people will look at this as anti-humanist, or trans-humanist, or post-humanist, in the sense that the researchers want to take whatever it is that is human, and idealize it, formalize it and put it into a machine, and argue that it is still the same thing after all those transformations. Although they have to police their own language about it, and say that it is just a 'model' of emotion, and it is not real emotion. But then there are the folks like Moravec who do not think that there is any difference, and these really are the same thing.

There is a way in which language, and the concepts they choose to work with are a way of policing their disciplinary boundaries, and their social status. Scientists like Rodney Brooks, who are at MIT in the AI Lab, in an ivory tower of sorts, where it is not really appropriate to talk about sexual engagement, apart from its biological necessity. But you talk to Gill Pratt, who is a great guy who ran the Leg Lab at MIT (but not anymore because they did not grant him tenure, unfortunately). On the walk over to his lab, he said to me that 'Oh yeah, all the roboticists talk about Real Dolls at the pub, and how they should just animate a Real Doll and make a million dollars.' But when I ask him about it on camera, his response is 'Who is going to see this?' So there is a norm that it is not appropriate as an academic pursuit. And in some sense this influences what they do, because they are driven away from it.

**Rodney Brooks:** I fully expect that there will be robots and people where people fall in love with a particular robot. I do not suspect it will be the norm in society, but I think there are enough pathologies, that will no doubt happen.



Matt McMullen / Mario Saucedo / Ben Pattee

**Peter Asaro** (behind camera): Do you think that robots will fall in love with people?

**Rodney:** Right now we don't have any way technically of having a robot reliably identify a person, except by fingerprint or something like that. But once we get face recognition a little more robust than it is now. I could imagine with one of these emotional robots, which has needs and desires, it somehow clicking in on a particular social stimulus, a particular face, and that being its primary means of keeping some of its needs in homeostasis. And it being rather persistent about a particular person.

**PA:** Also, there was a strong trend towards looking at infants and building infantile robots, perhaps also as a way to get away from sexuality, and even gender. The robot is like a baby, so it is not appropriate to have any kind of sexual attitudes towards it. And they look at mother-child relationships as a form of intimacy, but this is a form that is within acceptable norms. Mother-child love is something that Spielberg fixates on in the film *A.I.* as well, as if it were the archetype of love.

Again because it is a safe form, instead of mature adult love that involves sexuality, which is problematic if you are making a Spielberg film instead of a Kubrick film. But you can see the remnants of these more complicated forms left over from the Kubrick script, in characters like Gigilo Joe who is a robotic prostitute. *A.I.* came out just as I was finishing editing *Love Machine*, so I watched it with great interest, and have written about it as well.

And then you have the whole sex industry, who would love to have the ideas, skills and technologies that these MIT students are developing, and to have those students come work for them. But those students don't go to work for them (though the military often has better results at channeling academic robotics research). Their work and efforts are channeled into academic pursuits. Their ideas do filter down eventually, once the technologies are out there they start to filter into various industries. And seven years later, we can see a lot more sophisticated technologies being used by the sex industry. Actually, AI has been a slow moving field over the past few decades, whereas robotics has the potential to move a lot faster, and will start picking up speed in the next few years.

I think it is a fair criticism of the film that there is a tendency to elide the distinction between sex and love (or emotion, or affection). But I think this is a result of the observation you made about the sex industry focusing on machines that induce orgasms, where the academic focus on machines that induce various psychological responses. The more you listen to each side though, the more they start to sound alike—Hans Moravec talking about art as sexual display, Daniel Dennett talking about 'critter detectors', Dave Lampert talking about the brain as the primary sexual organ, and Robert Morgan Lawrence's physiological description of an orgasm. They all appeal to physiology in similar ways and for similar rhetorical purposes. Which just goes to show how deeply this way of thinking about love, desire and sex has been influenced by science within our culture. Still these connections and similarities are not obvious on their own.

**KV:** Given the differences between the two communities, though, there is this kind of bridge that needs to be formed. And you do that in an interesting way in the film, with those behind the camera questions, like 'Do you think a robot could love a human?' Your questions suggest that as the interlocutor of the two communities, you need to bring in some kind of sexed vocabulary – or a vocabulary more subject to discussion about the sexual practices - that serves as it were to bridge this gap between the practices of producing 'intelligence,' 'intentionality' and so forth and practices producing technologies for sexed engagement.

**PA:** This is a question about language, and building a bridge between the disparate groups. I think it was the fundamental challenge for me as a filmmaker—to do justice to both groups, to treat them evenhandedly, but also to get them to talk to one another in the film. And by the end of it they really do talk to each other. As an interviewer you can talk about love and emotion through the abstraction of robotics, and get them to really engage with it, and think about the implications. There is often this sense that the physical has a lower status, and the mental has a higher status. So the mental is OK to talk about, but the physical aspects of love are less acceptable to talk about. But it is not uniform, because even among the inventors, they have very different relationships to their own work, and how they deal with their own work sexually and at a physical level. So you have Matt McMullen, the Real Doll sculptor who says 'This is my art, I don't know what people do with it in their own homes and don't really want to know, but for me it is art.' And then you have Mario

Saucedo, with his claw glove, saying 'I love this! When I'm 80 years old, I'll still be as kinky as I am right now. I'm never going to stop.' And he's really into it. And then you have Ben Pattee, who is really into enemas, and who is trying to make a business, and some money, out of his hobby. And then you have Dave Lambert who created the Sybian, and who can barely talk about sexuality at all. Yet he also has a certain sense of his invention that when it is out there pleasuring women, it is an extension of himself that is pleasuring them. And he really thinks and feels he is gratify all these women across the country. And he gets excited about that, but he is not able to talk about sexuality in anything other than functional terms like 'I make a product, which fulfills a need, and I've been doing this for a long time.'

**Matt McMullen:** All of the bodies and all of the faces are still from my imagination. And I try to make each one have its own character. I still look at it as, this is my art. This is not a sleazy blow-up doll. It is a sculpture, a piece of art, regardless of what the person uses it for. Many people buy them, and use them as art. They just sit them in the corner of their living room. From what I understand, it is quite the conversation piece.

**Mario Saucedo:** Why do I make these toys like this? Because that is my goal, to give to the girl, or to the guy, the most pleasure. I mean, the most orgasms you can handle. Because that is what feels good. That is what makes your body feel. [plays with glove] I love this! I just...I don't know...I just enjoy this so much. This is something that I'm never going to stop. I'm always going to make my art, I'm always going to make what I like, I guarantee you that I'll be 70 or 80 years old, and I'll be as kinky as I am right now. And I'll be making toys as I do right now.

**Ben Pattee:** And at that point I decided, you know there is a business here, and it pays better than electrical controls that you have to fight to make 10% on. So this is how some of this started. Plus me being in the automation industry anyhow, I started saying 'How can I apply this technology to something?' People have drawn pictures of wild machines, for many many years, but no one has built anything! There have been a few attempts, and most of those have been pretty bad. Some of them broke and almost hurt people. No one has ever sat down and designed automation for the sex industry, until now. So I started Geysler.

**Dave Lampert:** It is my opinion that there are a lot of men in this world that are not necessarily good partners. And therefore, there are a lot of women who do not get the satisfaction and the gratification that they need. And this product was developed to try to fulfill a need. There are a lot of circumstances that this product is used in. There are a lot of cases where females do not have a partner. There are a lot of cases where they have bad partners. 'Bad' meaning that they either lack the knowledge, or lack caring. And the basic idea for this product is to fulfill a need. My name is Dave Lampert. We are in Monticello, Illinois. What do I do for a living? Right now I market this product, and have for the last 13 years.

**Peter Asaro** (behind camera): What is the product?

**Dave:** We are talking about a product we call *Sybian*.

**KV:** I had a bit of a crush on him really – this totally adolescent little boy way of churning uncomfortably in his embarrassment and pride. But what I want to explore further with you is the specific technique that you used in the film

to bridge the gap between the two communities. You drew on the tropes of love, and of fidelity. I found that to be a very effective way of bridging these two communities creating a conversation, or suggesting a convergence, between them. But it does raise questions about the lexical or ideological affinities between love and fidelity, on one hand, and the instrumental cognition as a humanist techno-scientific endeavor, on the other. So I wonder about the power and humanism of the tropes of love and fidelity, and how they are able to graft the practices of these two very different communities. What kind of power is this and what can we learn from it?

**PA:** First, I should say that that it is a regrettable feature of the love and fidelity tropes that they exclude thinking about alternative forms of sexual engagement. Partly, I suppose, it reflects a lack of imagination on my own part, and partly it reflects a tension between radically different views on social values and norms about sex. What I mean by that is that I think there are two very different ways to think about how we attribute and derive value from sexual engagement, which are directly related to different ways of approaching sexuality and implies very different social norms. So on one hand, we can treat it as a sacred value, which must be preserved in a static ideal form, so as to retain its aura of authenticity and purity. On the other hand, we can look at it as something to be explored in all of its various forms and permutations, to discover new meanings and create new values. There are also negative formulations for each side: that promiscuity cheapens and devalues sexuality on the one hand, or that rigid sexual norms stifle sexual creativity on the other. These are deep political and metaphysical differences—Platonism vs. Emergence. Ultimately, I agree with Dreyfus and Nietzsche that Platonism is ‘sick,’ but I still think it is important to explore the symptomatology. It is also easier to do in a film like this, rather than to really develop the other possibilities and vocabularies, though I would love to work on that further.



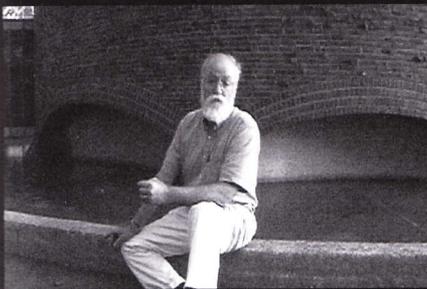
Dave Lampert / Hubert Dreyfus & Ken Goldberg / Robert Morgan Laurence & Carol Queen

**Hubert Dreyfus & Ken Goldberg:** We are not our understanding. In that sense Moravec is sort of interesting. He’s a kind of a wonderful modern version of Platonism in Christianity. Which Nietzsche says was sick, which must say I do agree with him. But that might be a matter of opinion. What it amounts to is the claim that our feelings, emotions, love, hate, our sensuality, all that is irrelevant to whom we are. We’re stuck with it, but we’re really our minds. And therefore if we could just capture the mental part of us and drop the body part of us we would be better off. In Plato’s language the body is just the tomb of the soul. And keeps us from being able to think as clearly and freely and continually as we wish we could.

**PA:** The bridging and grafting of these views is a feature of my questioning strategy. ‘Love’ is vague in a way that is really useful, in that it means a lot of different things to different people. So you can ask anybody what they think love is, or if they think a robot could love, or whether a person could love a robot, and they will tell you what they think. This is Errol

Morris's interviewing strategy. You let someone talk for a couple of minutes and they run out of prepared things to say, and then they will start to reveal just how crazy their worldview really is. And it is about three minutes into the interviews when I start to get really interested in what they are saying, and start thinking that it will make a great film. So you can ask these open-ended questions and people will bring in their own language and reveal the conceptual structures that they think with, and this reveals a lot about who they are and where they are coming from, by how they approach this rather vague and unformed question. But to get those things to emerge, you have to start asking those more focused questions and get them comfortable speaking about their deepest beliefs about the world. It is sort of like the 'priming' phenomena observed in cognitive psychology. And that is where fidelity pops up. I have to give credit to Doug Matejka for that question, actually, which he interjected during the interview with Mario. And it worked well so we kept using it. So it was sort of an emergent discovery of the filmmaking process.

I think fidelity is interesting to ask about because it brings up some complicated issues around love that help people to shape their answers to the question. There is a sense of transgression involved, where infidelity is something you are not supposed to do, so you are being transgressive if you do it. So it is a sly way of raising the issue of what is socially acceptable, while letting them formulate a very personal definition. Then there is another sense in which you have to think about the 'other.' For the technology to become the other, a foreign being that is not you or an extension of you, but is something that you can somehow get too close to. So it is not just a machine you are playing with, in some kind of glorified masturbation, but there is actually another being there, that you are sharing something with. What people fear, and why there are social norms like fidelity, is that people do not want other people to cheat because it will break up relationships and social structures, and the importance of keeping those relationships stable is highly socially and culturally constructed.



Daniel Dennett / Gill Pratt

There are a lot of presuppositions involved in interpreting that situation, and what fidelity means in different cultures, and to different people, is radically different, like in Margaret Mead's *Coming of Age in Samoa*, and open marriages and free love have really changed views within this culture as well. But all of these concepts still entail some form of the 'other,' so what constitutes the other? And what would a robot need to fulfill that role in your

conception of fidelity? So people have to think about a robot, and what it would need, as well as articulate their own concept of fidelity, which they may not have really thought about critically before. But if you ask what a robot would need for it to be cheating in a relationship, then you get some interesting answers, things like 'emergent orgasms.' Which raises further questions about the authenticity and fidelity of orgasms, and the meaning of 'faking it' in the context of synthetics and simulations.

On this question, it is also interesting that a famous philosopher like Daniel Dennett, who has written books with titles like *Consciousness Explained*, who gives his answer in complicated philosophical terminology, and has to cite some long forgotten papers by the philosopher Richard Rorty, comes up with essentially the same answer as Carol Queen and Robert Morgan Lawrence (who presented their collection of antique vibrators yesterday at the Arse). And they are just thinking off the cuff when they say, 'Well, I suppose that when you don't know what the robot is thinking, and the robot knows what it is thinking and experiencing better than we do, then it is having a real orgasm, and we can't second-guess it. Dennett,

following Rorty, calls this the ‘in corrigibility of the mental,’ which just means it is essentially an epistemic problem that we do not know what is going on inside the robot, so we have to trust the robot, and we have to treat it like another conscious being, because we don’t have access to its thoughts. To come at these questions from completely different conceptual universes, and wind up at the same place, I felt was really interesting and significant.

**Robert Morgan Laurence:** Well the question I would ask is: Is a machine that has been designed, and has the awareness to provide its own sense of pleasure, and responds to that pleasure as real, and then gives the response that one would of pleasure, in a better position than a person who is faking it?

**Carol Queen:** Or a machine that is faking it? No, a person that is faking it.

**Robert:** I like the idea of a machine that is faking it. The whole idea is just amusing. By definition, a machine would have to fake it.

**Carol:** Well, presumably.

**Robert:** We put a line up there. This is human and not aware. And then, what is awareness?

**Daniel Dennett:** Actually, I think the key to this is some observations that Dick Rorty made in a few classic papers in the early 1970s. Where he talked about ‘in corrigibility’ as the mark of the mental and he suggested that there is something like a social convention that we have, that certain complicated parts of the world perform speech acts which can be treated as having a certain constitutive authority. As speech acts of subjects that are conscious and have privileged access to their own mentality. And he went so far as to define mentality in terms of incorrigibility.

**KV:** It definitely shows where you can go with these issues anthropologically. Using these strategies, you are confronting these people with thought experiments throughout the film, and it is really interesting to see how these different communities respond to them. It cross-cuts the work of Alena Dorfman, who is a photographer here in the Bay Area, in interesting ways. She made a fantastic series of people who are living with Real Doll. The work was exhibited around and then showcased in an article in *Marie Claire* magazine. There was a man featured in the article, who lived with a Real Doll and his wife. The three sat together each morning and had breakfast. If I recall, his description of his relationship with the Doll also harked to a notion of fidelity. He said that one of the reasons he loved his doll so much was because he knew she would never lie to him. An amazing thought experiment immediately manifests the moment this actor enters the room. But the more interesting point I think is that in spite of his apparent weirdness, the guy really is quite a traditional guy. Not least in terms of which of his new mate’s capacities he emphasizes, but more precisely in terms of their apparent reproduction of those he likely seeks in a wife. It really is quite a catholic arrangement, after all. And I wonder what other kinds of tropes might be used to talk about sexed engagement, which might be grown to inspire the production trajectories of pornotechnics. Can’t we imagine planes of sexed engagement that don’t, or perhaps oughtn’t, reduce to, or necessarily even involve, love and fidelity? But then I’m immediately reminded of the cock pumping machines that you cover in the film, which, despite their apparent lack of capacity for fidelity, have odd affinities with humanism as well. So I’m interested in thinking ways out of these models, thinking other possibilities, other vocabularies, particularly with Matt’s dolls, where we might go with them, in spite of their visible reproduction of andro qualities.

**PA:** This story from the photographer reminds me of Sherry Turkle’s take on people’s relationships with robots. I tried really hard to convince her to do an interview when I was at MIT, but she did not want to be in the film. As a sociologist

coming from a psycho-analytic background, she likens people's anthropomorphic readings of robots to the Rorschach inkblot tests, in which people simply project their psychological desires and fears into the abstract patterns and inanimate objects. She did these great ethnographic observations of children and senior citizens interacting with Sony AIBO dogs and *My Real Baby* dolls. She finds a terminally ill child who sees the AIBO as a role-model of strength and immortality, a child neglected by her mother sees the robot as lacking any qualities worthy of respect or emotional recognition or attachment, and an elderly gentleman who finds it easier to talk to his robot, rather than another person, about his estranged wife because it won't judge him. So the interesting phenomena in these cases is not so much whether the robots have 'real' emotions, or are worthy of being seen that way in virtue of some intrinsic properties or technological capabilities. Rather the question is whether they fulfill the roles and needs that people have for them at the moment, and allow them to project their desires.

A wise person once told me that the thing that keeps someone in a relationship is not that they love the other person, but that they love themselves in the presence of another person. There is a cynical, narcissistic way to read that, but if we look deeper, we can see how two (or more) people might become reciprocally coupled in this way; we also find the essence of symbiosis and nurturing. So, if we are lucky, we end up loving those who make us better people, even though it is impossible to ever say what that will be in the future—again because it is emergent. And I think that is close to Gill Pratt's insight that it will be really hard to design a robot that won't just flatter you, and satisfy your immediate desires, but will be able to give you counsel and criticism, and help to reform your desires and develop yourself, whomever you may turn out to be. And I think that will be difficult not simply because it is a technical challenge, but it is really a conceptual challenge. We do not really have the conceptual structures and vocabularies for thinking about desire and growth within an emergent universe, much less how to develop technologies to support that. Surely it would be possible to develop such concepts, vocabularies and technologies, but we have to start thinking about them in genuinely new, emergent and open-ended ways. And there are many forces in this culture that are marshaled against that kind of thinking.

**Peter Asaro** (behind camera): Do you think that robots will fall in love with people?

**Gill Pratt:** I think so, yeah. I think that is going to happen. You know, love is such a mysterious thing, that it is hard to tell. It would be easy to program a robot that is increasingly attracted to one person, and to prefer that person over others, and to act in a dependent way towards a person. But, when will we reach a stage where a robot will be able to give you that negative feedback, give you advice about how to grow in your life? I think that is much further off.