

Beyond sex robots: Erobotics explores erotic human-machine interactions

10 July 2019, by Simon Dubé, And Dave Anctil



Erobotics incorporates a positive sexuality approach, exploring questions that include other ethical and regulatory approaches to human-technology interactions. Credit: Shutterstock

Science fiction films such as *Blade Runner* (1982), *Lars and the Real Girl* (2007) and *Her* (2013) explore the advent of human-machine relationships. And in recent years, [reality has met fiction](#).

Powered by advancements in [artificial intelligence](#) (AI) and [social robotics](#), artificial social agents are learning to communicate, learn and socialize, [transforming our societies](#). Yet research on human-machine interaction is still in its early stages, particularly in the areas of intimacy and sexuality.

In addition to our research on the topic, we have also been involved in spearheading initiatives to remedy the lack of knowledge on intimate human-machine relationships. In this spirit, we organized the first colloquium on erobotics at [the 87th Annual Congress of the Association Francophone pour le Savoir](#). There, researchers discussed various themes ranging from media and gender representations of sexual technologies to their medical and therapeutic potential.

A new erotic revolution

Interestingly, intimacy and sexuality may just be some of the most important areas to consider when it comes to the AI revolution, because new advanced technologies increase the possibilities of [human interaction with artificial erotic agents or erobots](#).

The term erobot characterizes all virtual, embodied and augmented artificial erotic agents, as well as the technologies that produce them. This definition includes—but is not limited to—prototypes of sex robots, virtual or augmented erotic characters, artificial partner applications and erotic chatbots. The word erobot is a portmanteau of *erōs* ([a historically rich philosophical concept referring to love, desire, sensuality and sexuality](#)), *bot* (a software agent), and *robot* (a machine capable of autonomously performing complex series of actions). The term erobot is meant to emphasize the agential and relational aspects of new erotic technologies and highlight the fact that [artificial agents are becoming social actors in their own right](#).

More than sex robots

One of the most (in)famous type of erobot is the human-like sex robot. However, sex robots represent only a fraction of what erobots are and can be as a result of the advancement, combination and the interconnectivity of new technologies. For example, progress made in conversational agents (programs that interprets and responds to users in ordinary natural languages), soft robotics (a field that constructs robots similar to living organisms), cloud computing and virtual and augmented reality will increasingly expose humans to new kinds of erotic partners.

These partners will be able to manifest themselves through various interfaces such as cellphones, computers, gaming consoles and virtual reality

equipment. They will be able to take a variety of forms and enact unlimited behaviours in simulated worlds. The ability to think and learn in fundamentally different ways than humans will allow for a wide new range of intimate human-machine relationships, redefining what it means to fall in love and have sex with artificial beings.

And that, in itself, should be considered an erotic revolution. It is also the ground for the creation of a new research field called Erobotics.

The study of human-erobot interactions

Erobotics is an emerging field of transdisciplinary research exploring our interaction with artificial erotic agents, as well as the technology that produces them. Erobotics focuses on the social, relational and agential aspects of artificial agents and the fact that we increasingly treat them as social actors in their own rights.

Not only the use of advanced [technology](#) in sex and relationship, but the artificial erotic beings that emerge from these kinds of technologies.

Erobotics develops theoretical, experimental and clinical research methods to study all phenomena related to human-erobot interactions. The field is interested in questions such as: What kinds of relationships will we develop with artificial agents? How will erobots transform our erotic minds and behaviors and influence our relationships? What regulations should be implemented regarding erobots?

As it has been suggested regarding [the employment of sex toys, dolls, and robots](#), Erobotics operates under sexuality and [technology positive frameworks](#). This means that Erobotics [emphasizes the importance of pleasure, freedom and diversity](#). Erobotics also aims to develop technologies that improve our well-being and guide the development of artificial erotic agents. Moreover, Erobotics is concerned with [the ethical and social implications of erobots](#): for instance, who should be allowed to interact with erobots, what forms and behaviors should be possible and how will they transform our social norms regarding sexuality and intimacy?

Future applications of erobots

Erobots could have applications in [health](#), education and research.

Erobots could be used for [individuals who have trouble finding partners, who may prefer artificial agents or simply want to experience pleasure](#).

Erobots could also be used in [medical and therapeutic settings](#) to help with intimacy-related fears and anxiety or to help trauma victims get reacquainted with their body and sexuality.

Erobots could be employed for exploration and practice to help people discover their erotic preferences. They could also be developed to provide validated interactive sex education and help people learn about respect, consent, diversity and mutuality in an innovative way.

Erobots could be used as standardized research tools to help researchers overcome ethical and methodological challenges related to sensitive research programs. They could [act as both stimuli and recording instrument in research protocols](#) and reduce risks associated with human-human erotic interactions.

Transdisciplinary futures

But ultimately, to harness erobots' potential, we must build transdisciplinary collaborations to tackle the complex phenomena related to erobotics. This means bringing inputs from across disciplines—from computer engineering and programming to social sciences and humanities—as well as bridging academia and the private sector.

A collaborative future is the key to develop erobots that contribute to our individual and collective well-being.

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