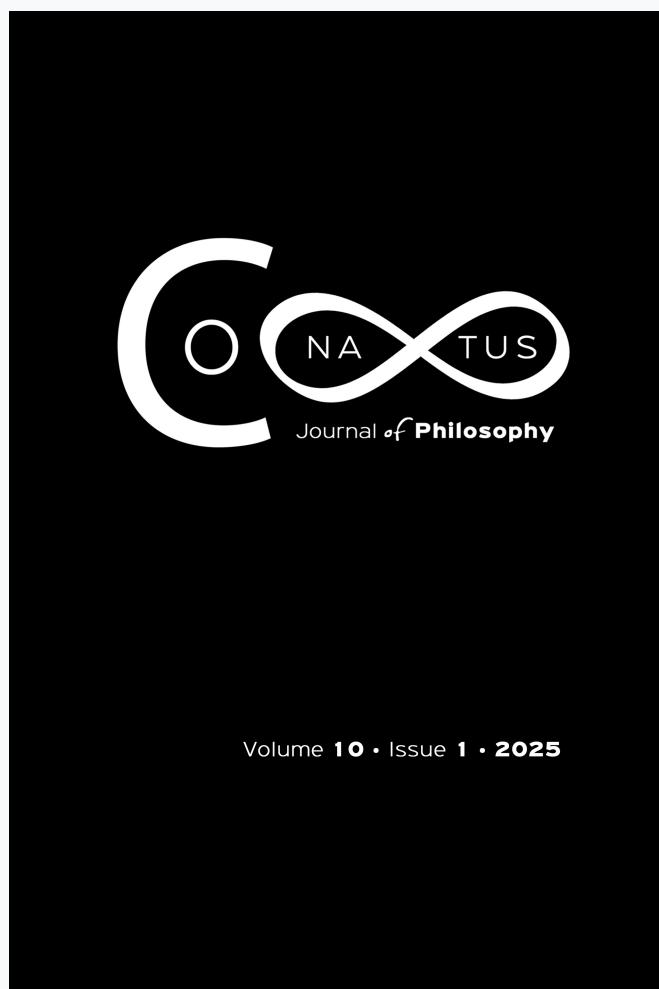


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# Robo-Eroticism: Designing Desire via Creativity in Sexual Robots

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## Abstract

*In this article, I argue that the integration of creativity into the development of sexual robots is a vital and indispensable factor for their widespread acceptance and functionality. I contend that creativity serves as a linchpin in the realization of fully functional sexual robots. To substantiate this assertion, I present four key stages. In the first stage, I offer an in-depth analysis of the contemporary state-of-the-art in sexual robots, encompassing both their current practical implementations and the theoretical foundations that underpin them. The second stage delves into the intricate connection between sexuality and creativity, drawing on diverse case scenarios that exemplify the interdependence of these domains as a condition of possibility. The third stage underscores the paramount importance of creativity in the design and development of sexual robots, elucidating its strategic role in securing broad societal acceptance. In the fourth and final stage, I discuss the imperative need to establish a new interdisciplinary field of study, which I propose to term “Robo-Eroticism.” This domain promises to comprehensively explore the fusion of technology and human sexuality from a creative perspective. By traversing these four stages, this article unveils the pivotal role of creativity in shaping the future evolution of sexual robots.*

**Keywords:** sex robots; human-robot interaction; sensuality; ambiguity; human-centered creativity

## I. From imagination to reality: Sexual robots nowadays

**R**egardless of opinions, the topic of sexual robots is present in our society. In the creative field of science fiction, humanoid robots which interacted with humans existed for decades. A scary popular example is The Terminator. Johnny Five is another example, friendly in this case. However, nowadays, robots are much more pres-

ent in our lives than ever before, leaving the exclusive realm of imagination.<sup>1</sup>

The cheaper production, the improvement of hardware and software, a society which every time is more used to human-robot interactions, and the Internet of Things played a significant role in it.<sup>2</sup> As Hans Peter Moravec puts it, a robot is “any automatically operated machine that replaces human effort, though it may not resemble human beings in appearance or perform functions in a humanlike manner.”<sup>3</sup> This is a general definition of a robot. Nevertheless, I am focusing here exclusively on those robots which have anthropomorphic characteristics and perform functions in a human-like manner. That is, it: humanoid robots.

I admit, however, two factors. The first one, is that there are robots which could satisfy sexual desires without the need of resembling humans, as in the case of certain paraphilic, zoophilia or objectophilia being just two examples.<sup>4</sup> I also recognize that the word “effort” from the definition of “robot” can be contradictory to those who consider a sexual activity to take place if, and only if, all the parts involved in the sexual activity are receiving the same sexual gratification.<sup>5</sup> However, sexual abuse, oral sex, or masturbation, can still be considered sexual practices, although the intention behind them is not to have reciprocal sexual pleasure.<sup>6</sup> Therefore, sex can sometimes be considered an effort motivated by different reasons for at least one of the parts involved. As a consequence, I consider sexual practices in which all the agents involved receive the same sexual gratification to be a possibility, but not a necessity.

Sexual humanoid robots represent, therefore, one of the many possible kinds of human-robot interaction.<sup>7</sup> Precisely because of this, coun-

<sup>1</sup> International Federation of Robotics, “Robots in Daily Life: The Positive Impact of Robots on Wellbeing,” 2021, <https://ifr.org/papers/robots-in-daily-life-information-paper>.

<sup>2</sup> Sachin Kumar et al., “Internet of Things Is a Revolutionary Approach for Future Technology Enhancement: A Review,” *Journal of Big Data* 6 (2019): 1.

<sup>3</sup> Hans Peter Moravec, “Robot,” *Britannica*, January 9, 2025, <https://www.britannica.com/technology/robot-technology>.

<sup>4</sup> Andrea M. Beetz and Anthony L. Podberscek, eds., *Bestiality and Zoophilia: Sexual Relations with Animals* (Purdue University Press, 2005); Melanie Weixler and Herwig Oberlerchner, “Objektophilie – Die Liebe zu Dingen,” *psychopraxis. neuropraxis* 21, no. 5 (2018): 210-213.

<sup>5</sup> Chantelle Ivanski and Taylor Kohut, “Exploring Definitions of Sex Positivity Through Thematic Analysis,” *The Canadian Journal of Human Sexuality* 26, no. 3 (2017): 216-225; Zoë D. Peterson and Charlene L. Muehlenhard, “What Is Sex and Why Does It Matter? A Motivational Approach to Exploring Individuals’ Definitions of Sex,” *The Journal of Sex Research* 44, no. 3 (2007): 256-268.

<sup>6</sup> Alan H. Goldman, “Plain Sex,” *Philosophy & Public Affairs* 6, no. 3 (1977): 270.

<sup>7</sup> Robbie Arrell, “Sex and Emergent Technologies,” in *The Routledge Handbook of Philosophy of Sex and Sexuality*, eds. Brian D. Earp, Claire Chambers, and Lori Watson (Routledge, 2022), 586.

tries such as Spain and Russia have begun to open prototype brothels with robots.<sup>8</sup> A TV series like *Better Than Us* presented the potential impact of this kind of robot in society. From a production side, Abyss Creations created the RealDoll.<sup>9</sup> Another company providing this kind of humanoid robot is Sex Doll Genie, which offers them in different looks, genders, ages, and sizes.<sup>10</sup> In Spain, the robots Samantha or Ava are alike.<sup>11</sup> This new scenario, did not interest only companies who started obtaining money from it, but also the academicians. A proof of this is the organization of the *Congress on Love and Sex with Robots*, from which more than nine editions were held up to date. Books like *Love and Sex with Robots*, or *Turned On: Science, Sex and Robots* are just another example.<sup>12</sup> Nevertheless, like many other innovations, this one also finds its resistance.<sup>13</sup> An example of organized resistance is the campaign launched in 2015, led by Kathleen Richardson and Erik Billing, called *The Campaign Against Sex Robots*.<sup>14</sup>

Often, the opinion regarding this type of robot depends on the perceived and imagined consequences, both in the robot-human interaction and in its externalities for human-human interaction.<sup>15</sup> Different expectations lead to different conclusions regarding whether this type of robot is possible, salutary, and desirable.<sup>16</sup>

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<sup>8</sup> Alfonso L. Congostrina, "Trouble in Spain's Uncanny Valley of the Sex Dolls?" *El País*, March 15, 2017, [https://english.elpais.com/elpais/2017/03/15/inenglish/1489581889\\_495823.html](https://english.elpais.com/elpais/2017/03/15/inenglish/1489581889_495823.html); Will Stewart, "Russia's First Sex Robot Brothel Opens Ahead of World Cup," *Daily Mail Online*, May 10, 2018, <http://www.dailymail.co.uk/news/article-5713369/Russias-sex-robot-brothel-opens-ahead-World-Cup-bid-cash-fans-players.html>.

<sup>9</sup> Joan Alvado, "Sex and Love with Robots: No Longer Science Fiction," *Equal Times*, July 14, 2017, <https://www.equaltimes.org/sex-and-love-with-robots-no-longer>; Ry Crist, "Behind the Scenes of a Sexbot Factory," *CNET*, August 10, 2017, <https://www.cnet.com/pictures/sex-robots-sexbots-abyss-creations-factory-realdoll-harmony/>.

<sup>10</sup> "About Sex Dolls by SDG," Sex Doll Genie, effective 2022, <https://sexdollgenie.com/pages/about-us>.

<sup>11</sup> Alvado, "Sex and Love with Robots."

<sup>12</sup> David Levy, *Love and Sex with Robots: The Evolution of Human-Robot Relationships* (HarrerCollins, 2007); Kate Devlin, *Turned On: Science, Sex and Robots* (Bloomsbury Sigma, 2018).

<sup>13</sup> Sven Heidenreich and Patrick Spieth, "Why Innovations Fail – the Case of Passive and Active Innovation Resistance," *International Journal of Innovation Management* 17, no. 5 (2013): 1; Thomas S. Kuhn, *The Structure of Scientific Revolutions*, ed. Ian Hacking (University of Chicago Press, 2012).

<sup>14</sup> Andrea Morris, "Meet The Activist Fighting Sex Robots," *Forbes*, September 27, 2018, <https://www.forbes.com/sites/andreamorris/2018/09/26/meet-the-activist-fighting-sex-robots/>.

<sup>15</sup> Noel Sharkey, Aimee van Wynsberghe, Scott Robbins, and Eleanor Hancock, "Our Sexual Future with Robots: A Foundation for Responsible Robotics Consultation Report," *Foundation for Responsible Robotics*, July 1, 2017.

<sup>16</sup> Georgios Arabatzis, "Pornography and Stress," *Conatus – Journal of Philosophy* 7, no. 2 (2022): 145-146; Anco Peeters and Pim Haselager, "Designing Virtuous Sex Robots," *Interna-*

Whether these robots can be socially salutary is a topic which must be answered from an ethical perspective.<sup>17</sup> However, human-robot interaction is often characterized by safety, usability, and functionality. My statement is that for a sexual robot to be desirable, and fully functional, only achieving creative behavior is a condition of necessity, although not of sufficiency.

## II. Methodology

In this article, I employ a qualitative research approach centered on the analysis of secondary data to investigate the intricate interplay between sexual robots and creativity. The rationale for choosing this method is grounded on the nature of the research question, the accessibility of existing literature, and the potential to synthesize and reinterpret established knowledge within the topic.

My decision to utilize a qualitative analysis of secondary data was driven by several factors. First, the research question is exploratory and conceptually focused, seeking to delve into the complexities of a relatively novel area of study. Second, there is a significant amount of scholarly work on social robotics, human-robot interactions, and human-centered creativity, making secondary data readily accessible. Lastly, this method allows for the integration of diverse perspectives from multidisciplinary sources, enabling a comprehensive exploration of the research question.

To undertake the aforementioned qualitative analysis, I performed a systematic literature review and data compilation. I conducted a comprehensive search across reputable academic databases, encompassing peer-reviewed articles, books, conference proceedings, and relevant reports. I meticulously selected relevant materials based on their alignment with the research topic and the conceptual framework.

The analysis entailed a multi-step process. Initial data collection involved identifying and categorizing sources that provided insights into social robots in general, and sexual robots in particular. As well, in human sexuality, and creativity. Subsequently, I employed a thematic analysis approach, focusing on identifying recurring themes, concepts, and patterns across the selected sources.

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<sup>17</sup> *tional Journal of Social Robotics* 13 (2021): 64; Harro Van Lente, “Imaginaries of Innovation,” in *Handbook on Alternative Theories of Innovation*, eds. Benoît Godin, Gérald Gaglio, and Dominique Vinck, 23-36 (Edward Elgar Publishing, 2021).

<sup>17</sup> Arrell, “Sex and Emergent Technologies,” 586.

The methodology that I have chosen aligns coherently with the research objectives and the nature of the research question. By leveraging secondary data, this methodology provides a cost-effective and efficient means of addressing the research question, particularly considering the exploratory nature of the investigation. At the same time, it reduces the ethical concerns derived from human experimentation. This methodology enables us to derive meaningful conclusions, generate new theoretical insights, and provide a foundation for future empirical research endeavors in this emergent and thought-provoking domain.<sup>18</sup>

### III. Sex and creativity

Human sexuality can be a complex activity. We could define a sexual activity as an action that tends to satisfy sexual desire via sexual pleasure for at least one of the members involved in the activity. This does not imply excessive creativity by default. However, some sexual practices do. Sexual role-plays are one example.

Defining creativity is not a simple task, and differences between scholars and disciplines often show this. To avoid semantic disputes, it is important to clarify what I mean by “creativity.” By creativity, I refer to the “tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others.”<sup>19</sup> In fact, in the following chapters, I will present this tendency, and particularly, its linked skill, as a key. Key to generating useful alternatives for solving the communication and entertainment problems that sometimes arise within sexual interactions. Sexual human interactions which require “for novel, varied, and complex stimulation.”<sup>20</sup>

While I acknowledge that the philosophical notion of creativity is often related to that of personal identity, I do not consider this as strictly necessary.<sup>21</sup> In the field of artificial intelligence, the concept of generative intelligence, and especially, the one of combinational creativity, are questioning that notion of the self as a condition of necessity.<sup>22</sup> Applied to robotics, I consider that the upcoming book of

<sup>18</sup> Kerstin Dautenhahn, “Methodology & Themes of Human-Robot Interaction: A Growing Research Field,” *International Journal of Advanced Robotic Systems* 4, no. 1 (2007): 15.

<sup>19</sup> Robert E. Franken, *Human Motivation* (Brooks/Cole Publishing Company, 1998), 396.

<sup>20</sup> Ibid.

<sup>21</sup> Nikos Ernakis, “What Makes Free Will Free: The Impossibility of Predicting Genuine Creativity,” *Conatus – Journal of Philosophy* 5, no. 1 (2020): 55-69.

<sup>22</sup> Giancarlo Frosio, “The Artificial Creatives: The Rise of Combinatorial Creativity from Dall-E to

Iva Apostolova approaching the importance of touch in the process of having mental representations and how this could impact robots, will contribute positively to this meaningful topic.

Having clarified this fact, it is time to state that individuals can engage sexually in scenarios where they take on different identities creating intricate narratives. These imaginative activities add novelty to intimate encounters and allow individuals to explore their desires and fantasies in a safe and consensual setting. The understanding of this situation is often ambiguous and non-literal, which seems to be a potential conflict for the safety, usability, and functionality of a sexual robot nowadays.

An aesthetic and creative understanding of the world at the same time transforms engagement into sexual activities. One illustrative example is eroticism and sensuality linked to the concept of nude, in comparison with the naked. While the naked body is a state of undress, vulnerability, and even embarrassment, the concept of the nude suggests other things. Things such as beauty, sensuality, touch, warmth, and acceptance of the body. The nude, static or in motion, is creative since it generates a pleasant engagement.<sup>23</sup>

In addition, creative communication within intimate relationships has the potential to generate sensuality and eroticism.<sup>24</sup> When partners engage in imaginative and artful conversations, they create a unique mental and emotional connection that is deeply stimulating. The exchange of seductive words, fantasies, and desires, through creative dialogues, allows individuals to tap into sensuality. By weaving stories and using language to evoke vivid mental images, they tease each other and craft a shared narrative of desire. This creative communication serves as a powerful aphrodisiac, setting the stage for a more profound and electrifying physical connection.

Humans seeking to engage in sexual experiences often engage in creative practices. Whether it is the introduction of new scenarios, experimentation with verbal communication, or immersive role-playing, these endeavors reflect a commitment to novelty, personal connection, and the exercise of the imagination to foster deeper intimacy.<sup>25</sup>

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ChatGPT,” in *Handbook of Artificial Intelligence at Work: Interconnections and Policy Implications*, eds. Martha Garcia-Murillo, Ian MacInnes, and Andrea Renda (Edward Elgar Publishing, 2024), 240-245.

<sup>23</sup> Georges Bataille, *Eroticism*, trans. Mary Dalwood (John Calder, 1962); Kenneth Clark, *The Nude: A Study of Ideal Art* (John Murray, 1956); John Money, “The Development of Sexuality and Eroticism in Humankind,” *The Quarterly Review of Biology* 56, no. 4 (1981): 379-404.

<sup>24</sup> Maggie Geuens and Patrick De Pelsmacker, “Affect Intensity Revisited: Individual Differences and the Communication Effects of Emotional Stimuli,” *Psychology & Marketing* 16, no. 3 (1999): 195.

<sup>25</sup> Tabea M. Zorn, Lena Feilhauer, Elina Juhola, Kaja Gottwald, and Charmaine Borg, “Does Sexual Creativity Enhance Sexual Satisfaction? Examining the Effect of Weekly Creative Sexual

As a result, I support that a relationship between sexual practices and creativity exists. I state that this relationship is based on a condition of possibility, and not of necessity nor sufficiency. However, when applied in a consensual activity, creativity seems to have a positive effect on the satisfaction of sexual desire via sexual pleasure, thanks to its generation of eroticism and sensuality.

#### IV. Sexual robots and creativity

My conclusion is that the concept of functionality in sexual robots is undeniably important, as it forms the very core of their purpose. However, I recognize the critical importance of other factors, such as safety and usability. The research suggests that creativity serves as a bridge with the potential to connect functionality to a wider audience, making the interaction with sexual robots resemble a qualitatively expected human-robot interaction with sexual purposes.

Creativity has the power to enrich the user experience by enhancing the aesthetic and psychological engagement between humans and these robots. It has the potential of enabling sexual robots to adapt, surprise, and evolve, ensuring that the experience remains fresh, engaging, and satisfying. This adaptability is crucial for the long-term success of sexual robots, as it prevents users from growing bored or disinterested over time, and therefore, prevents its potential decline.<sup>26</sup> Without creativity, sexual robots risk becoming mere mechanical devices, unable to provide the nuanced responses and interactions that their users desire.

Furthermore, creativity opens doors to diverse and inclusive experiences, catering to a broader range of user preferences. It allows for the customization of personalities, appearances, and communication styles, which can help users feel more connected and engaged with their robotic partners. In doing so, creativity is pivotal in addressing various human needs and desires, making sexual robots an inclusive and versatile option for users of different backgrounds, cultures, and orientations.

Overall, the integration of creativity into the design and functionality of sexual robots should not be understood as a luxury. It has

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Tasks in Monogamous Long-Term Heterosexual Couples,” *The Journal of Sexual Medicine* 19, suppl. 4 (2022): S114.

<sup>26</sup> Zahar Koretsky, Harro Van Lente, Bruno Turnheim, and Peter Stegmaier, “Introduction: The Relevance of Technologies in Decline,” in *Technologies in Decline: Socio-Technical Approaches to Discontinuation and Destabilisation*, eds. Zahar Koretsky, Peter Stegmaier, Bruno Turnheim, and Harro Van Lente (Routledge, 2022), 7.

the potential to be the key to expanding their reach and ensuring that they remain relevant and desirable companions for humans. By offering unique, evolving, and emotionally enriching experiences, sexually creative robots can genuinely engage and connect with a broader audience, fulfilling their promised functionality.

## V. In praise of a “Robo-Eroticism”

In light of the importance of creativity and its significant role in enhancing the functionality of sexual robots, I believe there is a compelling case for creating a dedicated subfield within the broader realm of human-robot interaction. This subfield, which I propose to be termed “Robo-Erotism.” This would focus on the interdisciplinary study and development of sexual robots with an emphasis on creative, psychological, and esthetic engagement.

The emergence of “Robo-Erotism” as a distinct subfield is a response to the growing interest and investment in the development of sexual robots, and the recognition that these artificial companions are more than mere tools for sexual gratification, or at least, they have the potential to become more than that. Rather, they represent a potential paradigm shift in how humans experience sexual practices with non-biological entities. Therefore, I consider it is imperative that we approach this field with a more comprehensive perspective. A perspective that goes beyond the technical and ethical aspects, while expressing all the recognition, respect, and interest for the technical and ethical contributions to this topic.

“Robo-Erotism” would involve experts in fields such as artificial intelligence, robotics, psychology, human-computer interaction, ethics, aesthetics, and sexuality studies. By fostering collaboration among experts from these diverse backgrounds, this subfield can address the multifaceted challenges and opportunities presented by sexual robots.

Within this subfield, researchers and developers can explore how creativity can be used to improve the user experience. In doing so, they can pave the way for a future where sexual robots serve as not just tools for pleasure, but as sensual and erotic entities for human engagement.

Furthermore, the establishment of “Robo-Erotism” could also serve to legitimize and regulate the industry by setting standards for manufacturers and designers ensuring that sexual robots are developed with a creativity which is human-centered, since it has the goal to appeal to the human sensitivity. This could help mitigate potential risks and controversies surrounding the technology and promote its acceptance in society.

In conclusion, the integration of creativity and the importance of user engagement in the context of sexual robots are compelling reasons to consider the development of a dedicated subfield, “Robo-Eroticism.” By creating this subfield, we acknowledge the multifaceted nature of sexual robotics and work toward harnessing technology to create meaningful, emotionally fulfilling human-robot relationships while addressing the ethical and practical challenges they present. “Robo-Eroticism” could pave the way for a creative, responsible, and ethical future for this emerging field.

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