



From cyber feminism to techno feminism, net.art and the spread of digital culture

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Research methodologies and research line contextualisation

In the scope of the research line *Arts and Gaming, Convergent Feminism and Speculative Futures*, led and coordinated by myself at the Interactive Technologies Institute from the Laboratory of Robotics and Engineering Systems in Lisbon, our group from the Lisbon University Fine Arts Faculty is developing a practice that explores the fusion of various methodologies and research processes, including playful and artistic approaches that question gender power relations and the growing complexity of ongoing technological, ecological and sociocultural changes. The group is currently composed of 15 people: two scholars, three full-time researchers, and seven doctoral and three master students from different countries (Brazil, Finland, France, Germany, Portugal, Slovakia and Spain). The group participates in various international and artistic research projects around the globe. Our activity encompasses concepts and manifestos creation and production that critically investigate artistic processes in distributed and global computer digital networks that disseminate knowledge that often ignores and turns invisible women, minorities, disabled people and south-south (Alden, Morphet & Vieira 2010) artistic local practices, imposing global north narratives created above all by a concrete, extractivist and discouraging patriarchal apparatus (Gouveia 2024b).

The ongoing European research projects in which I now participate as a senior researcher address these problems, namely arts hybridity (*Communities and Artistic Participation in Hybrid Environment*, CAPHE, Marie Skłodowska-Curie Actions), digital citizenship (*Fostering Digital Civics Research and Innovation in Lisbon*, DCitizens) and gender step-backs in gaming and playful environments (eGamesLab consortium). In 2021, I was invited by the Portuguese National Science Foundation to participate as an *Expert Speaker from Portugal* at the Mutual Learning Workshop on Gender and Digitalization with a keynote titled: “*Interactive Multimedia Experiences in Higher Education: Gaming, Augmented and Virtual Reality, and Research*”, for the European project Gender Action.¹ This talk was later published in an IGI Global book chapter (Gouveia, Lima & Unterholzner 2022) aiming to foster digital inclusive environments in higher education.

¹ Retrieved December 7, 2024: <https://h2020.genderaction.eu/exploratory-mutual-learning-workshop-on-gender-and-digitalization/>

The previously quoted research group created the *XCare Collective* (2023–2025)² and the *Gender Art and Game Equity* (2020–2024)³ projects to address complex subjects concerning women artists' integration in engineering and male-based settings. Between 2019 and 2023, I also co-created and co-curated the *Playmode* exhibition for the Museum of Art, Architecture and Technology (MAAT) in Lisbon and four major cities in Brazil (Brazilian Bank Cultural Centres, CCBB).⁴ These two group projects and five exhibitions displayed artworks from various locations emphasising political and social problems concerning cyber practices since the 1990s. As I have consistently written during the last 20 years, as a practitioner with 30 years of experience in contemporary arts and digital settings, my cyber-feminist approach goes back to participation as a pioneer in the Portuguese artistic scene during the 1990s. I created analogue and digital installations that merged visual and digital arts since 1997.

In 2023 the research group edited the Journal of Science and Technology of the Arts special edition (Gouveia, Lima & Sá 2023), in which we published a chapter about “Convergent feminism, gaming, digital transition, and equity” for the book *Technofeminism: multi and transdisciplinary contemporary views of women in technology* (Gouveia & Lima 2023). This knowledge dissemination expressively demonstrates how artistic works and arts-based research methodologies challenge various frameworks for the creation, production and dissemination of works that take advantage of project and game-based research. We aim to inquire about contemporary culture mediated by technologies from an intersectional perspective (Gouveia 2024b). The work we have been doing over the last few years takes advantage of diffractive research methodologies in the arts (Sayal-Bennett 2018; Fox & Alldred 2023) exploring how material objects and processes can be understood through the effects created by their difference, namely disability studies and augmented human technologies (Gouveia & Lima 2024).

I recently published a journal paper (Gouveia 2024a) about the relevant practice of archiving and documenting my works from the 1990s for future generations' knowledge. All the works presented in this text are archived in the Digital Art Archive (ADA) database. The Soong Sisters artwork, here with further details, has been available on the

2 Retrieved December 7, 2024: from: <http://xcarecollective.com>.

3 Retrieved December 7, 2024: <https://gage1.webflow.io/>

4 Retrieved December 7, 2024: <https://www.maat.pt/en/exhibition/playmode> and here: <https://www.tourvirtual360.com.br/ccbb-playmode/>

Rizhome platform since 2001.⁵ Other research works, connected with interactive fiction, hypertext and hypermedia are present in the Electronic Literature Knowledge Base⁶ and published in my first book (2010). In that book, I showed my early research years, and the text is a compilation of published papers made after my doctoral thesis public defence in 2008. Afterwards, I developed this trend in transmedia studies published in book chapters and created transmedia and gaming courses and seminars for bachelor, master, doctoral and post-doctoral candidates at the Lisbon University Fine Arts Faculty.

In my research and group projects processes, the arts are considered through a feminist materialist perspective, grounded in Donna Haraway (2017), Rosi Braidotti (2022), Karen Barad (2014), Sandy Stone (2001) and Katherine Hayles (1999), among many other studies (Gouveia 2024b), showing a way of mapping how and where the effects created by difference can be understood. My practice also includes master's, doctoral and post-doctoral supervision. Defended post-doctoral and doctoral theses in the research group in the past couple of years tackled concepts such gender inclusive environments (Luciana Lima 2023), innovative practical-theoretical arts and gaming research methodologies that challenge neuroaesthetics (Anna Unterholzner 2023), net-art and gender equality with women in shelter houses (Teresa Veiga Furtado 2023), decolonial arts and games (Isabelle Arvers 2024) and hegemonic extractivist processes for imagery creation and dissemination (David Infant 2024), among other examples. Formally, this text uses autoethnography (Ellis, Adams & Bochner 2011) as an alternative methodology that uses writing as a tool useful for describing and interpreting personal experience in broader political and social contexts. Autoethnography, merged with auto theory as a feminist practice (Fournier 2022), takes advantage of intersectionality, meaning a contextual framework for examining how oppression systems intertwine and define opportunities in technological environments,⁷ and gaming studies (Gouveia 2024b).

5 Retrieved December 7, 2024: <https://classic.rhizome.org/portfolios/artwork/47645/>

6 Retrieved December 7, 2024: <https://elmcip.net/node/2146>

7 Association for Women in Science (AWIS), "Intersectionality", *AWIS website*, <https://awis.org/intersectionality/> (accessed 25.03.2023).

Artistic statement

In this text, I analyse three interactive artworks developed by myself to promote awareness concerning the relevance of documenting and archiving interactive artworks for future generations. My goal is also to instigate critical thinking about hegemonic discourses concerning the arts that constantly erase women, minorities, disabled people and people from south and south-south locations promoting only global north mindsets and perspectives. My aim is also to instigate other ways of doing research that take advantage of convergent feminism (Braidotti 2022), arts and gaming research methodologies (Gouveia 2024b), game studies (Gouveia 2010) and ludic systems theories to promote inclusive environments in the arts and gaming. In this way, a perspective based on play and interactive digital fiction can inspire us to look at other ways of using digital technologies and gaming. A perspective that focuses on improving human capabilities and experiences, and fights against hegemonic narratives. Instead of promoting linear stories about older non-linear events or convenient truths about the past, I intend to open dialogues that promote diversity and inclusion, fighting orthodox ways of doing arts-based research.

Between Poets (2000), Jizo (2001) and Soong Sisters (2001)

Between 2000 and 2001, I created three web-based projects taking advantage of the technical features of a specific web browser and hypertext markup language (HTML). I used Adobe Photoshop for image creation, Macromedia (now Adobe) Dreamweaver web software for programming and Adobe Flash for animations.

The first web-based project, named *Between Poets* (2000), was created for the Go to Frisco exhibition, an online and site-specific show in San Francisco, to reflect a dialogue between Lisbon and the American city. This project was an invitation by Zé dos Bois Gallery⁸ in Lisbon. The interchange between the two cities was part of the conceptual challenge and for that, I created and developed an interactive piece about an imagined dialogue between two poets: the Portuguese poet Herberto Helder and the American poet Lawrence Ferlinghetti. Highlighting poetical phrases and poems about cities and exploring World Wide Web aesthetics to use the internet as a creative source, I emphasised the dialogue between two languages, Portuguese and English. The viewer could

8 Please see: <https://zedosbois.org/>.

interact with several overlapping windows with sounds, flash animations and code errors transformed into poems. The idea was to create a playful system where all elements would result in a cacophonous artefact that bothered people by making them think about the excess of information that the aesthetics of a new communication medium such as the internet brought to the human experience.



Figure 1. Patricia Gouveia, *Between Poets*, 2000. Screenshot images.

The second web-based project, named *Jizo* (2001), was created for the digital magazine of art, culture and technology “Interact”, and it was an invitation from the former Centre for Communication and Language Studies (CECL), now integrated at Lisbon New University (Universidade Nova de Lisboa) Centre for Research in Communication, Information and Digital Culture (CIC. Digital). For *Jizo*, I created an artificial dialogue between two writers and two texts, the Australian writer Robyn Davidson and her book *Desert Places* (2000 [1996]), and the French writer Yves Simon and his book *Le Voyageur Magnifique* (2000 [1987]). In this piece, I quoted the Portuguese translation of Davidson’s book, which I translated into English, below, highlighting some phrases that I used to create animations:

All was silent behind the broken wall; outside, a few chickens were plucking in the manure heaps. Then there was A SOUND WHICH WAS SCREAMING TO ME. Children. AVALANCHES OF CHILDREN, who seemed thousands, who appeared through holes in the gravel as if attracted by a piper, each one of them with their little face, their destiny, beautiful, loved, unique and without a future. Because there is nothing for them anymore. There is not enough land, nor trees, nor animals, nor jobs; there is not enough money for their education, their medicines, not even the guarantee of a full stomach. However, they will produce the same number of children again – and these others, and these others – and the physical understanding of that mathematics, of the geometric progres-

sion of increasingly destitute lives, made my heart shrink with fear. I knew the statistics – I knew that the resources spent on ONE AMERICAN CHILD were enough to SUPPORT TWENTY-FIVE INDIAN CHILDREN. I hated the moralism that demanded that the Third World accept (and pay for) a version of environmental protection in which trees were more important than people. Whoever used electricity or drove a car had no right to tell peasants to stop felling trees. However, it was India's children who made the obvious clear – regardless of unfair disparities and the movements of capital in the world – WE ARE TOO MUCH. When I heard the cacophony of that stream of life pouring out of the most impoverished of villages, it was hard not to loathe the human species – the thoughtless multiplication. (...) Any distant suffering that I might still feel from NOT HAVING CHILDREN was mitigated by that sound, which now gradually receded, as the river of life returned to the village and we advanced.⁹

In the interactive pieces, I also quoted the Portuguese version of Simon's book that I now translate into English:

Is this child in a desert, in heaven, who owes nothing to men, neither to carbon nor to silicon, who owes nothing to light or night? Who is the one I think about and who only belongs to me, when after all his kingdom is the Universe, and his words cannot be repeated since they are true ideograms, formed not of representations, but of authentic mountains, of authentic trees, lacquered roofs, cloisters, birds with bone beaks and claws, the mouths of volcanoes, real oceans, real seas... Their ideograms look like postcards and say phrases from the universe. They cannot speak, they read, they decipher themselves with those satellite photographs where the cities are blue, the wheat fields are red, and the water is green. They are parts of the world because THE CHILD SPEAKS THE WORLD. She doesn't know the signs to shorten a space and when she designates the distance of the stars, the ideogram she deploys has the extension of the light years that separate them. When they want to talk about love, there is a man and a woman entwined, and when they talk about war, there are a thousand tanks that breathe fire, bombers and nuclear warheads that wait, hidden in their underground, for the signal that will make them launch into towards the sky... SHE OWES NOTHING TO MEN, nor to the sex that penetrates another sex to leave biology, amino acids and a genetic code...

THIS CHILD WITHOUT A PROGRAM IS MINE, just because I think of her, and she knows it... But it is from the flowers, from other men, from other dreams, from other eyes, SHE BELONGS TO THE NOVELS that speak of her. And he's only my son because he flies to me when I think of him...¹⁰

Starting from this conceptual framework, I developed a database named *Jizo* – after the Japanese god of children, pregnant women and travellers – to inquire about the

9 Robyn Davidson, *Lugares Desertos*. Lisboa: Editora Quetzal 2002 (1996), pp. 281–282.

10 Yves Simon, *O Viajante Magnifico*. Porto: Editora In-Libris 2000 (1987), p. 229.

role of women and children in society and to emphasise a cyberfeminism perspective, given that I consider that women have free will to decide for their lives and are not conditioned to choose maternity.

The website generates multiple overlapping windows and sounds. Screams of women and children are mixed with other disturbing recordings that make us think about motherhood and what options we should take for the world to be sustainable. The interaction mode asked participants to manipulate browser windows, and the artistic experience was generally based on participatory game design. For that purpose, an HTML editor was used to merge flash animations, images, sounds and text in random constructions. I used photographs taken by me in Brazil, Malaysia, Singapore and Spain. The online application presented a grid of soft colours that contrasted with the mixed sound environment.



Figure 2. Patricia Gouveia, *Jizo*, 2001. Screenshot images.

The third web-based project, named *Soong Sisters* (2001), was created as part of an individual exhibition presented in the same year at Fábrica da Pólvora in Barcarena (Oeiras) in Portugal. The exhibition's title, *reality>media>data>database*, was inspired by Lev Manovich's text "Database as a symbolic form" (1998), later published in his book *The Language of New Media* (2001). This show presented a projection of three web-based projects (*Between Poets*, *Jizo* and *Soong Sisters*) and aimed to exhibit these projects in a more immersive way to involve participants in an interaction mode. The purpose of the show was also to generate awareness and knowledge of the World Wide Web and the internet as sources of artistic practices. At this historical moment, only a few people had access to these technologies, while artists from all over the globe were

starting to imagine how cyberspace and the other digital tools that came along with it could be integrated into their creative practices.



Figure 3. Patrícia Gouveia, reality>media>data>database. Exhibition invitation (front and back).
Fábrica da Pólvora, Barcarena, Oeiras 2001.

The *Soong Sisters* project was about the life story of three Chinese women, Ai-ling, Ching-ling and May-ling. They were the daughters of Charlie Soong – a millionaire who made his fortune selling bibles in China. According to the Soong sisters' mythology, the youngest sister loved power (May-ling, beautiful spirit, married General Chiang Kai-Shek), the middle sister loved China (Ching-ling, happy mood, married the revolutionary Sun Yat-sen) and the eldest sister – money (Ai-ling, pleasant mood, married to finance minister H.H. Kung). One of the Soong sisters' brothers, T.V. Soong, was considered one of the richest men in the world during the 1940s and 1950s. The Soong Dynasty “reigned” for almost a century, controlling Chinese politics, economy and society, with connections in the Chinese underworld and the “gangs” that controlled it.

The head of the family left China at a very young age to go to the United States of America, where he studied and converted to Catholicism. Upon returning to China, he opened a publishing house, Sino-American Press (Hua-Mei Shu), and began to print bibles at low cost, which made them accessible to a greater number of people. Charlie Soong and Sun Yat-sen became friends and, in 1894, both began to conspire in Shanghai in favour of the revolution. Charlie Soong became one of the founding members of Dr. Sun Yat-sen's cult. After Dr. Sun Yat-sen's death in 1925, Soong's eldest daughter became one of the most hated women in China, while the middle daughter was considered a “widow of China”.

I heard the story from a close friend when I was in Malaysia in 1999, and immediately started to research the three sisters' lives from such books as Emily Hahn's *The Soong*

Sisters (1943), Roby Eunson's *The Soong Sisters* (1975) and Sterling Seagrave's *The Soong Dynasty* (1996). In 2019, writer Jung Chang published an engaging book *Big Sister, Little Sister, Red Sister: Three Women at the Heart of Twentieth Century China* – a complete overview of the three sisters' relevance in challenging traditional female models in China and elsewhere.

After the individual exhibition at Fábrica da Pólvora, this digital work was further developed into a hypertextual game where the three sisters' life stories could be reconstructed by the user playfully. In 2002, the Spanish Museu Estremenho e Ibero-americano de Arte Contemporânea (MEIAC) bought it for their virtual gallery. Just as in the previous web-based projects I presented, the aim was to reflect on the role of women poetically and strangely, often by frustrating the viewer to stimulate critical and meaningful interactions. In 2005, the three projects were presented as part of the Online Portuguese NetArt 1997 exhibition curated by Sofia Oliveira and Luís Silva (Oliveira & Silva, 2005, online).

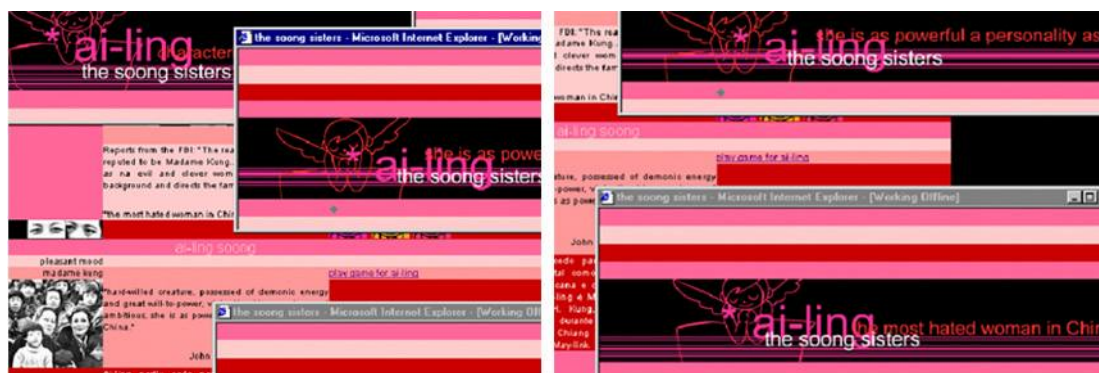


Figure 4. Patrícia Gouveia, *Soong Sisters*, 2001. Screenshot images.

In Rachel Greene's view, in the 1990s, net.art was not recognised as an art form by more conventional artistic institutions, namely contemporary art museums and galleries.¹¹ At that time, in Portugal, only a few people understood the potential of these resources as emancipatory tools for creative development and achieving a broader global audience. Since the 1960s, digital art – as well as some other artistic practices – has explored emotions, ideas, experiences or memories, and shown a will to communicate

11 Rachel Greene, *Inter-net art*. London: Thames & Hudson 2004, p. 18.

an artistic statement. And yet, nowadays, net.art still tends to be neglected in contemporary art environments. A recent resurgence of interest in such practices, however, can be a signal that things might change in future.

Many of the 20th-century art movements – such as, for example, Conceptual Arts, Fluxus creative practice, EAT (Experiments in Art and Technology), multimedia happenings, installations and performances, which take advantage of a multitude of technologies such as procedural rhetorics, satellite transmission, mail art, relational aesthetics, and generative and experimental programming, to name but a few – were net.art precursors. Such net.art artefacts as the artistic practices developed in the three previously presented web-based projects, *Between Poets*, *Jizo* and *Soong Sisters*, emphasise the idea, the concept and the creative process to the detriment of a finished, autonomous and unique work.¹² It is also relevant to highlight the interaction factor, as something that shapes not only the creative processes behind these works, but also, broadly speaking, the relation between art, research and technology. Moreover, these artefacts create new challenges to museum conservation due to the obsolescence of software and hardware, which makes such works harder to preserve for the collective memory.

Networks, hypertextual systems and non-linear narratives are parts of a creative exploratory process that takes us to procedural and moving arts for the internet. Alternative models of procedural experimentation, within the scope of web-based practices, are chosen to the detriment of other institutional possibilities such as a more prominent presence in museums and galleries. In this context, the reification or institutionalisation of art is also disregarded by net.art artists in favour of an aesthetic that privileges the process over the final product.

Due to the obsolescence of its means, tools, software, applications and plugins, the history of net.art is complex, as many of the works made between the last decade of the last century and the first of this decade are no longer available. Web pages, in which most of these works were hosted, are now unavailable or can only be accessed through living archives such as, for example, the Internet Archive and its Wayback Machine.¹³ Videos and visual imagery can be useful to help contextualise these artefacts as well as documents with artistic statements that preserve the personal point of view about the creations for future generations. All such information – and the autoethnographic stories – are important knowledge sources for future curatorial and museological studies.

12 See: Fernando Dominguez Rubio, "The Unnatural Ecologies of Modern Art", keynote speech at *Computer legacies: Narrating histories of digital media in museums*, Loughborough University 2002.

13 For more information please see: <https://archive.org/> (accessed 25.03.2023).

According to Ellis, Adams and Bochner, autoethnography challenges canonical ways of doing research and is an alternative investigative methodology that uses writing as a tool useful for describing and analysing personal experience, as well as for making visible a broader cultural context.¹⁴ For that purpose, autoethnography uses relational ethics and co-constructed narratives to challenge research that represents others in a disembodied fashion intending to generate research as a political, ethical, just and socially conscious act.

Another useful artistic research methodology may be intersectionality, “a contextual framework for examining how systems of oppression deeply intertwine and influence experiences and opportunities”¹⁵ in technological environments. The experiences cannot be separated from the systems that shaped them, even though this is often how they are studied. For example, a black woman with a disability does not experience her arts or engineering workplace simply as a woman, black person or person with a disability, but rather through a unique interaction with all these systems. In this manner, intersectionality deepens the understanding and the ability to improve the lived experiences of marginalised groups in STE[A]M (an acronym for Science, Engineering, Technologies, Arts and Mathematics). Changes in the artistic practice that came with the rise of the internet as a mass medium¹⁶ must be inquired with these research methodologies in mind for a proper understanding of the contextual framework of that specific, cultural and historical moment. Projects are actions, and action is also a research tool to speak about oppressive systems, be they social, political or artistic.

Nowadays, many projects created in the period presented above are still inaccessible to the public, despite a huge effort that has been made in recent years to keep their legacy for future generations. The creation of institutional databases that make the history of interactive media available should be noted, among them ADA – Archive of Digital Art (former Database of Virtual Art),¹⁷ the File Festival Archive,¹⁸ or even the creation of a space for a reflection on these topics within the framework of the Inter-

14 Carolyn Ellis, T.E. Adams, and A.P. Bochner, “Autoethnography: An Overview”, *Forum Qualitative Social Research*, vol. 12, no. 1 / 2011. January 2011.

15 Association for Women in Science (AWIS), “Intersectionality”, *AWIS website*, <https://awis.org/intersectionality/> (accessed 25.03.2023).

16 See: Jay David Bolter, *The Digital Plenitude: The Decline of Elite Culture and the Rise of New Media*. Cambridge: MIT Press 2019.

17 Please see: <https://digitalartarchive.at/nc/home.html> (accessed 25.03.2023).

18 Please see: <https://archive.file.org.br/> (accessed 25.03.2023).

national Symposium on Electronic Art (ISEA)¹⁹ and the ISEA Symposium Archives.²⁰ The impossibility of viewing works that were removed from the internet and the web, or that are today inoperable, because many of them relied on hardware and software that is no longer available, suggests that, in the future, a whole retro-engineering process will have to be created to ensure access to a set of digital artefacts conceived within different historical periods.

These works took advantage of the new technological tools and were made available by the spread of computation and communication technologies throughout the 1980s. In this context, internet history intersects with computer science and the efforts of the telematic arts' pioneers, who combined techniques and services associated with telecommunications. As stated elsewhere,²¹ the term telematic art began to be used by the English artist Roy Ascott in the early 1980s, but made an impact by 1990 when it appeared in the article "Is There Love in the Telematic Embrace?". The eponymous "telematic embrace" suggests that meaning is the consequence of the interaction between an observer and the system – a state of flux, an infinite change and transformation. Meaningful interactive experience depends on the participant's previous background and knowledge, and it only makes sense when the artefacts somehow resonate with them.

Emerging media, such as the internet and the web in the 1990s, took advantage of cybernetic systems and their feedback features (inputs and outputs), which enabled the integration of several people into one connected environment. In this sense, net art is inseparable from the history of digital technologies and the spread of the digital market for artistic creation, production and mass consumption. Nowadays, the internet arts are an expanded field, a mass media environment²² – an environment that is very different from that of the 1990s, and their historical context should be made evident to future generations. It is our responsibility to tell how fascinating it was to work with these technologies in the past, when networks were like new territories for exploration and how artists struggled to develop works in an emerging field.

19 Please see: <https://www.isea-international.org/> (accessed 25.03.2023).

20 Please see: <https://www.isea-archives.org/> (accessed 25.03.2023).

21 Patrícia Gouveia, "The Digital Playful River, a River Out of Eden. How the Internet shaped my Planetary Perception", in: *Challenges of the Technological Mind. Between Philosophy and Technology*, London: Palgrave Macmillan 2024.

22 Ceci Moss, *Expanded Internet Art: Twenty-First-Century Artistic Practice and the Informational Milieu*. London: Bloomsbury Publishing Academic 2009.

According to Teresa Furtado in her doctoral thesis in multimedia art, titled *Net art and Gender Equality: Cocreations with women in shelters* [*Net art e Igualdade de Género: Cocriação com mulheres de casas de abrigo*]:

For Mike Tribe (USA, 1966) and Reena Jana, the term net.art, which associates the field of art with that of the internet, was created by the Slovenian artist Vuk Cosic (Yugoslavia, 1966) in 1997, the year in which Documenta X integrated works created specifically for the internet for the first time (Tribe & Jana, 2010 [2007], p. 88), with the term net.art being used by an internet user in an email sent to Vuk Cosic in 1995, in which, due to technical failures it was only possible to read the term net.art (Greene, 2004, p. 55). According to Gabriella Giannachi (2004, p. 19), citing Peter Weibel (Ukraine, 1944–2023) and Timothy Druckery (USA, –), the term was later used by Cosic in 1996, at a conference in Trieste, to define artistic practices that occurred both on the net and through it. During this research, the term net.art is used when referring to art made in the last century, the result of the communicational culture created on the internet by artists. We can also consider works done in the present millennium that draw on or are made and presented within internet cultures.²³

As stated elsewhere,²⁴ with inspiration from Ana Mamede's work (2021), computer science became widespread in the late 1950s. Distant and distributed networks, based on data and message blocks, gave rise to the Advanced Research Projects Agency's (ARPA) project, of the US Department of Defense, which developed the ARPANET project. Commercial Internet Service Providers (ISPs) emerged in 1989 in the United States and Australia. ARPANET was deactivated in 1990 but left traces for the future. After the creation of a computer network, the internet, it was necessary to provide access to documents. Investigations carried out within the scope of the European Organization for Nuclear Research, the well-known CERN, in Switzerland, by the British computer scientist Tim Berners-Lee, between 1989–1990, resulted in the World Wide Web. Thus, hypertext documents were linked in a complex information system, accessible from any node of the distributed network. Since the mid-1990s, the internet has had a revolutionary impact on culture, commerce and technology, including the rise of near-instant communication via email.

Instant messaging and voice calls made using the internet protocol (VoIP), conversations or video chats and, finally, the World Wide Web with its discussion forums,

23 Teresa Furtado, *Net art e Igualdade de Género: Co-criação com mulheres de casas de abrigo*. PhD thesis, unpublished. Lisbon: Faculty of Fine Arts 2023, p. 37.

24 Patrícia Gouveia, "The Digital...", op.cit.

blogs, social networking services and online shopping sites, paved the way for a global world.²⁵ There is no precedent in human history for such dissemination of information and connectivity. Increasing amounts of data are transmitted at ever higher speeds over optic fibre networks. The takeover of the global internet communication landscape was historically rapid and continues to grow, driven by the ever-increasing amounts of online information, commerce, entertainment and social networking services. However, the global network future can be shaped by regional differences and reflecting on its accessibility is critical.

The digital artist and early pioneer of net.art and cyberfeminism Cornelia Sollfrank is, as Furtado states in her doctoral thesis, one of the most committed and active authors on the internet. In *The Truth about Cyberfeminism*, published in 1998, Sollfrank defends the plurality of the term and the contribution of such authors as Sadie Plant, Donna Haraway and the VNS Matrix collective, as well as many activists and artists who have appropriated the term in innovative ways. In another text, "Revisiting Cyberfeminism" from 2015, Sollfrank gives a perspective on how getting engaged in an artists' environment was pivotal to start working with such medium as the internet:

Not every artist's generation is in the lucky position of witnessing the birth of a new technology that has the potential to revolutionize the world, its communication, economy, politics – and art. Young artists who, in the early 1990s, understood what was about to happen, had no other choice than to get involved, leaving behind the surfaces of their screens and sliding down the rabbit holes of their modem connections. Operating on the level of code and protocols, these individuals found themselves in a strange new territory, in which the reality and beauty of their artworks were largely imaginary. The prevalent atmosphere of departure attracted like-minded pioneers, and within a few years, an entire ecosystem of Internet art populated what sci-fi writers of the previous decade had termed, "cyberspace." It was the novelty of this habitat, its (apparent) ability to depart from the limitations of the physical world – including those of the body – that inspired female artists to develop new feminist utopias and to test new strategies based on digital networking. This first wave of Cyberfeminists posited an intrinsic affinity between women and digital networked media, and set out to challenge the patriarchy in complicity with technology.²⁶

25 We can consider that there were previous precursors of the global world movement in colonial and capitalist economic strategies, but this is something out of the scope of this text. For more information about the concept of the global village please see, for example, McLuhan & Powers (1992) and Page (2002).

26 Cornelia Sollfrank, "Revisiting Cyberfeminism", *ART PAPERS*, May/June 2015, https://artwarez.org/uploads/media/Sollfrank-Revisiting_Cyberfeminism.pdf.

In the quoted text, Sollfrank also makes a scathing critique of a new generation of artists for the lack of political involvement and social engagement. According to the author, in comparison with the pioneers of internet art who were more driven by curiosity and technological ingenuity, a younger generation of artists who have been incorporated under the “post-internet” label, were rather driven by cynicism and postmodern strategies of irony and over-affirmation. In consequence:

Instead, cultural phenomena spawned by the omnipresence of the Internet serve as content and material for what are otherwise formally rather traditional artworks, sculpture, installation, video, or performance. The art world, which has always been troubled by digital cultural techniques and their incompatibility with the requirements of the market, appears to appreciate this direction, and has responded enthusiastically.²⁷

The German author also considers that women should fight the myth of the new technologies as “toys for boys”. Since the 1990s, our work has been consistently and coherently about cyberfeminism and this word was used as a keyword in all the web-based projects presented in this text. More recently – precisely because of some very worrying setbacks – we cocreated, with Dr. Luciana Lima, researcher and psychologist, the project *game art and gender equity*²⁸ to stimulate women’s participation in technological environments. According to Paulo Preciado, feminism that rejects technology as a sophisticated form of male domination over women’s bodies ends up assimilating any form of technology to patriarchy, repeating and perpetuating the binary oppositions of nature and culture, feminine and masculine, animal and human, primitive and developed, among many others.²⁹ Our aim is to contribute to a convergent feminism³⁰ where women fight together for better living conditions. As Sollfrank argues:

Cyberfeminism did leave a trace legacy: for the first time, it provided role models for women with a political and critical agenda to include technical competence as part of the strategy, thus contributing to real empowerment. Pursuing individual careers is not enough: as a term and as a collectivity, cyberfeminism can still bring women together, and inspire creative and critical work.³¹

27 *ibidem*.

28 Please see: <https://www.gameartandgenderequity.com/> (accessed 25.03.2023).

29 See: Paulo Preciado, *Manifesto Contra-Sexual*. Lisbon: Orpheu Negro 2019.

30 Rosi Braidotti, *Posthuman Feminism*. Cambridge: Polity Press 2022.

31 Cornelia Sollfrank, *op.cit.*

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