Discussions, workshops and editatonas: feminist technopolitics and networked learning in Mexico

Conversatorios, talleres y editatonas: tecnopolítica feminista y redes de aprendizaje en México

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Abstract

The purpose of this article is to analyze the com-plexity of learning networks that emerge during the process of technological appropriation promo-ted by feminist collectives in Mexico. The analytical approach considers the concepts of digital appro-priation and networked learning from a techno-political perspective, as a networked processes and social practices. For this reason, the body of research, namely the posters of events dissemina-ted and occurred over more than two years, was registered as a relational database of topics and modalities finally analyzed in a hybrid construc-tion composed by a Social Network Analysis (SNA) and a semantic networks outlook. Successfully, the major findings took shape as a rich ecosystem between reflection, appropriation and influence with discussions, workshops and editatonas as key modalities. Additionally, a network of centra-lities was revealed as a configuration of uses that acknowledges women's agency, socializations that arise from dialogic activities, and significan-ces oriented towards active participation in social practices enabled by ICT.

Keywords*:* Technological appropriation, networked learning, technopolitics, cyberfeminism, ICT, Social Network Analysis.

Resumen

El propósito de este artículo es analizar las redes de aprendizaje surgidas de los procesos de apropiación tecnológica que promueven los colectivos de tecnopolítica feminista en México. El marco analítico retoma los conceptos de apropiación digital y aprendizaje en red desde una perspectiva tecnopolítica, destacando la reticularidad de los procesos y las prácticas sociales. A partir de la revisión de los carteles de difusión de actividades de los colectivos durante más de dos años, el enfoque de análisis intersecta las relaciones entre las temáticas y modalidades registradas, desde las tradiciones del Análisis de Redes Sociales y la construcción de redes semánticas. Los hallazgos revelan un ecosistema con talleres, conversatorios y *editatonas* como eventos clave en una red que configura procesos de reflexión, apropiación e incidencia tecnológica, a través de usos que reconocen la agencia de las mujeres; socializaciones dialógicas y orientadas a fomentar la participación activa en las TIC.

Palabras clave*:* Apropiación tecnológica, aprendizaje en red, tecnopolítica, ciberfeminismo, TIC, Análisis de Redes Sociales.

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1. Introduction

For decades, women's relationship with technology has been analyzed under perspectives that agree in exposing feminine exclusion from knowledge, practices, and meanings of technology (Haraway, 1995; Plant, 1998; Hawthorne & Klein, 1999; Braidotti, 2002;Castaño, 2005; Zafra, 2005; Wajcman, 2006 Hargittai, 2007). Nevertheless, the emergence of information and communication technologies (ICT) made possible uses and re-significances for women, including a subversive potential that has transformed their usual exclusion. The creation of blogs, digital media, *performances*, installation art, audiovisual productions, activisms mediated by socio-digital platforms and other ICT-based actions have allowed women and organizations to shed light on issues, claim rights, and organize to challenge power relations affecting women's lives.

But this subversive potential is not within everyone's reach due to the structural differences constraining access to, use, and appropriation of technology. The most remarkable evidence of such conditions is the digital gender gap[1], understood as the differences in ICT use between men and women (Pagola, 2010). According to the International Telecommunications Union (ITU, 2017), this gap is a global phenomenon: in developed countries, internet use is 79.9% in women and 82.2% in men; the percentage decreases drastically in lesser developed countries, where 14.1% of women and 21% of men have access to ICTs. The factors determining the digital gender gap are linked to other structural differences like economic inequalities, access to both elementary education and that specializing in technology, and the emerging practices of digital violence, which make up the female population's approach to these technologies (ONU, 2015; UNESCO, 2019).

Regarding the structural differences limiting women's use of digital environments and the processes that generate them, a notable amount of formal and informal efforts have emerged to promote women's access to technology. Particularly, this text aims to analyze the feminist techno-political networks in Mexico City, that have recently gained notoriety as part of the cyber-feminist movement in the region, in the context of new horizons opened up by new perspectives of digital technology (Ortiz Henderson y Garay Cruz, 2015). The hypothesis is that these organizations create learning networks promoting technological appropriation of women based on the modalities and themes whose intention is to transform their exclusion in order to convert them into active participants of digital environments.

2. Theoretical Framework

2.1. *Technological appropriation from the gender perspective*

Internationally, promoting the access, use, and technological appropriation of women has become a necessary task that has largely been promoted under the framework of digital literacy (in formal educational environments). Digital literacy aims to develop skills, abilities, and knowledge necessary to use ICTs such as: hardware and software; skills used for searching, classifying, evaluating, and presenting information; and the use of specific applications regarding the work environment (Castaño, 2016). However, there is a lack of critical thinking in such digital literacy efforts about the learning process mediated by gender in regards to digital technology and the power relationships.

Different authors have indicated that learning in, by, and of technology is mediated by gender, transforming it into a socio-cultural construction of digital technology as a masculine environment and into a differentiated digital socialization (De Sanmamed, Flecha & Elboj, 2002; Vergés, Hache & Cruells, 2011; Natansohn, 2013; Rebollo-Catalán, Pérez and Vico-Bosch, 2015; Becerril Martínez, 2018 a). In formal educational environments, according to UNESCO, gender stereotypes characterizing women as incompetent, inefficient, and uninterested in technology cause their participation in technological production and use to go unencouraged. In addition, their digital practices are classified as 'basic' and 'of little productivity' (in contrast to the specialized and effective practices attributed to males) which excludes women from participating in innovation processes, given that their habits, needs, and dynamics are not considered. This explains that throughout formal education, girls and young women do not have the same opportunities to develop technological skills and abilities, and therefore lose interest in this

area. This influences their choice of profession, job opportunities in work environments that rely on technology, and in their chances to take advantage of the benefits of digital technologies during their lives (UNESCO, 2019). To remediate this differentiated socialization in nearby environments, according to the mentioned works, women follow other learning paths characterized for being self-taught, solitary, intuitive and based on trial and error. In other words, they create *their own* ways of learning to use ICTs.

Upon recognizing that gender structures learning processes, the aim to promote technological knowledge, skills, and abilities in women is unsuccessful because it addresses the outcomes of such processes (the differences regarding uses), but not the factor constituting the differences; what is needed is resignifying the technological.

For this reason, instead of talking about digital literacy, the central concept in learning processes of women in, with, and for ICTs is considered technological appropriation. Technological appropriation is defined as the way in which people use technology in their daily lives, both in their practical and symbolic dimensions (Becerril, 2018 b, p.75). "These two dimensions that comprise technological appropriations are intertwined. Therefore, when we talk about technology use, we are also alluding to the meaning that it carries" (p.76). In this sense, the concept of technological appropriation points to a construction of relationships with technologies different from those imposed by the dominating order based on the meanings that they enable, recognizing the agency of those who make up the community of female users[2]. For Morales, technological appropriation implies a reflection on the determinations (economic, social and ideological) and on the implicit discourses in the ICTs to generate social practices that "are expressed in the competent use of these objects, their desire and freedom to creatively adapt them to meet their own needs, convictions or interests, in the framework of project construction for individual and collective autonomy" (2011, p.56).

Rosalía Winocour (2007, p.554) states that technological appropriation encompasses the use (where the knowledge and skills are activated), socialization (where shared technology representations are activated) and the significance (where the meaning of the use of the technology is articulated from determined representation framework). Following this idea, if the relationship of women with ICTs has been signified from exclusion, appropriation processes are key for generating alternative significances from other frameworks of meaning. Particularly, speaking of technological appropriation from the perspective of gender implies putting people's experience (in this case, that of women as subjects of gender) in the center of the learning processes, considering the set of practices, knowledge, motivations, representations and meanings present in their relationship with certain technologies (Becerril, 2018 a).

2.2 *The proposal of feminist techno-political networks.*

Thinking about processes of technological appropriation with gender perspective in formal educational environments is complex because these spaces reproduce stereotypes, practices and learning models that enforce the masculine hierarchy associated with digital technologies. An alternative to said spaces are the emerging organizations that promote technology appropriation processes by women from perspectives that recognize the subversive potential of women. In this work, we consider that these organizations establish feminist techno-political networks, which provide the structure and the network dynamic as axis of social processes. Sierra and Gravante speak of techno-politics as a transforming and decentralized mediation stemming from the digital technologies, based on the democracy of the code and collective creation (2017, p.7). What distinguishes this mediation is the aspect of the network, which is to say, the structure and the dynamic in the network resulting from the crossing links on all levels, where activities differ between network nodes and agents but are developed together based on shared objectives.

Based on ideas of authors like Monserrat Boix (2015), Sonia Reverter (2013) and Guiomar Rovira (2018), we define feminist tecno-politics as a proposal to generate connections between women, technologies and other agents that transform the power relationships implicit in the gender order. Thus, the axis of the feminist techno-politic pro-

posal is not to promote the uses of technology, but rather politicize the digital practices in the daily lives of women.

In this sense, in feminist technopolitical networks there also lies a proposal of *networked learning*, in its widest conception. Goodyear, Banks and McConell (2004) define it as a social practice that the use of information technologies promotes connection among people, a community and their learning resources, leading to the achievement of individual and collective cognitive objectives. For these authors, use of online materials is not a enough of a characteristic to define networked learning (in other words, it is not reduced to online education) but rather the central component is the interaction:

> "The centrality of human interaction in our conception of networked learning encompasses some pedagogical commitments and beliefs about learning. In summary, there is no sense in networked learning if one does not believe in learning via cooperation, collaboration, dialogue and/or community participation" (2004, p.2).

Adding to this notion, Chris Jones (2008) indicates that networked learning comes from the relationships between social subjects with practices located in action contexts comprised of different participants and in discernible material conditions: "learning in this sense takes place over time, it is located in both material (including the virtual) and social spaces and forms part of a larger array of social practices (...) mediated by a variety of technological forms" (Jones, 2008, p.619). Thus, networked learning as social practice implies development of practices online and offline; it is not a process only in reference to digital technologies, but also (and especially) to processes enabled by said technologies:

> The value for the learning does not lie in technology, or in the content provided by a central service, but rather it lies in the emerging properties that stem from the adding of many parts in which the total is more than the sum of its parts (Jones, 2008, p. 622).

In this way, the networked learning proposal as a social practice approaches techno-political perspective, where technological mediation allows for the connecting of skills, knowledge and experiences of multiple agents in order to focus them on the construction of other forms of political participation. Using this characterization, we have identified the work of various organizations that promote the technological appropriation of women from non-formal spaces, without curricular formats, and without focusing on the generation of technological skills for the management of programs or devices.

Particularly in Mexico, there has been the emergence of a network comprised of feminist collectives and other organizations that have accompanied the different women's rights movements in recent years. The country's overwhelming problem of gender violence[3] (that since 2013 has led women to march in the streets with the hashtags #Feminicidioemergencianacional, #24A,[4] #VivasNosQueremos, #Miprimeracoso, #SiMeMatan and #LaCalleEsNuestra), caused the spotlighting of organized groups of women that, via different activities, provided an approach to technology. Firstly, these collectives aim to give women tools for denouncing gender violence, but they proceeded to connect into a network that has brought about the technological appropriation via processes that go beyond such use. As a result, one of the main questions asked is: What modalities and topics comprise networked learning to promote uses, socializations and meanings that allow for technological appropriation?

3. Methodological Framework

In the beginning, the corpus of this research was collected in database form to represent the heterogenic networks of actors and players that comprise the feminist techno-political scene in Mexico, under the perspective of the Actor-Network Theory, (Pedraza and Rodríguez, 2019). To create the database, we made a compilation of posters advertising activities that the country's most popular collectives made on Facebook: Ciberseguras, Luchadoras and Laboratorio de Interconectividades (Internet Governance Forum, 2017). Ciberseguras is an initiative originally from Mexico that currently

has collective participation in Brazil, Bolivia and Guatemala, where people share recommendations and digital safety resources via workshops and materials on the internet; Luchadoras is dedicated to producing information on gender perspective (via its website) as well as organizing workshops on ICTs and Gender; and Laboratorio de Interconectividades is a feminist hack proposal that works together with MedialLabMx and Comando Colibrí on the digital feminist self-defense proposal.

Reviewing the posters of these three collectives, focusing on the identification of possible nodes, there emerged other feminist organizations dedicated to the same cause: Corazón de Robota, Epic Queen, Hacks de Vida, just to name a few. In addition, we found an important presence of other organizations that without being feminists participate in the techno-political network: Data Cívica, Derechos Digitales, La Sandia Digital, Article19, Wikimedia and Social TIC.

In total, 82 events held were identified during the period April 24, 2016 to November 25, 2018[5]. Based on this corpus, information was registered in 8 categories: collectives, exhibitors, topics, venues, locations, modalities and backers (in other words, organizations that supported the events). In addition to finding varied indications of networks submerged with gender perspective that discretely accompany movements on socio-digital networks[6], there was also major emergence of an important system of underlying learning networks. In order to describe this system, this analysis considers only two of the categories registered: topics (i.e. the event's main issue) and modality (i.e. event format), with the objective of exploring the relationship between digital appropriation and networked learning that has formed from feminist techno-politics on the Mexican scene.

For this purpose, a hybrid methodological approach was designed consisting of the mapping of interactions based on a social network analysis perspective, combining the construction of variables from the tradition of semantic network analysis (Kim, 2013; Eddington, 2018). As we know, social network analysis follows a structural focus of the relationships in a combination of nodes or actors and links or interactions (Wasserman & Faust, 1994); in the case discussed in this article in relation with the centrality of degree that indicates the larger the size of the node in the network, the higher number of relationships, all under the instruction of the Force Atlas spatialization algorithm to locate relationships and proportional distances between nodes.

Semantic network analysis consists of applying analytical techniques of associations of pairs based on shared meaning, commonly studied in the relationship between words, content analysis or the discovery of overlapping perceptions in a text (Doerfel, 1998), in this case based on the creation of categories of meaning from the confluence of environments and objectives both in the topics and modalities.

4. Results

The following results are divided into two. First, in the categorization of meaning based on networks of relationships between modalities, that helped us create the dimensions Reflection, Appropriation and Incidence as axes of comprehension of the connective action behind the feminist technopolitical movement (See Image 1, created by the author, in which the topics are shown in purple, the modalities in orange and the dimensions of meaning in black). These dimensions emerge from the question: What type of process does the event format attempt to create?

Second, the semantic discoveries in relation with the topics, that are grouped around the following variables, also extracted by the shared meaning: 1) critical reflection on digital violence, 2) content creation, 3) computational language, 4) gender perspective, 5) self-defense practices and 6) intervention formats. These variables come from the question: What are the main issues on which these events are organized? Note that in both cases the categories regarding the modalities and the topics were corroborated to strengthen the transversal pertinence of meaning.

In regards to the dimensions in terms of the modalities, the results surpassed the initial supposition which was to find practices of appropriation. Instead, this dimension was obtained, yet in the midst of two others that were closely related: reflection -which implies the analysis of the relationships

Image 1. Semantic Networks of Modalities (Reflection, Appropriation and Incidence)

Source: Author.

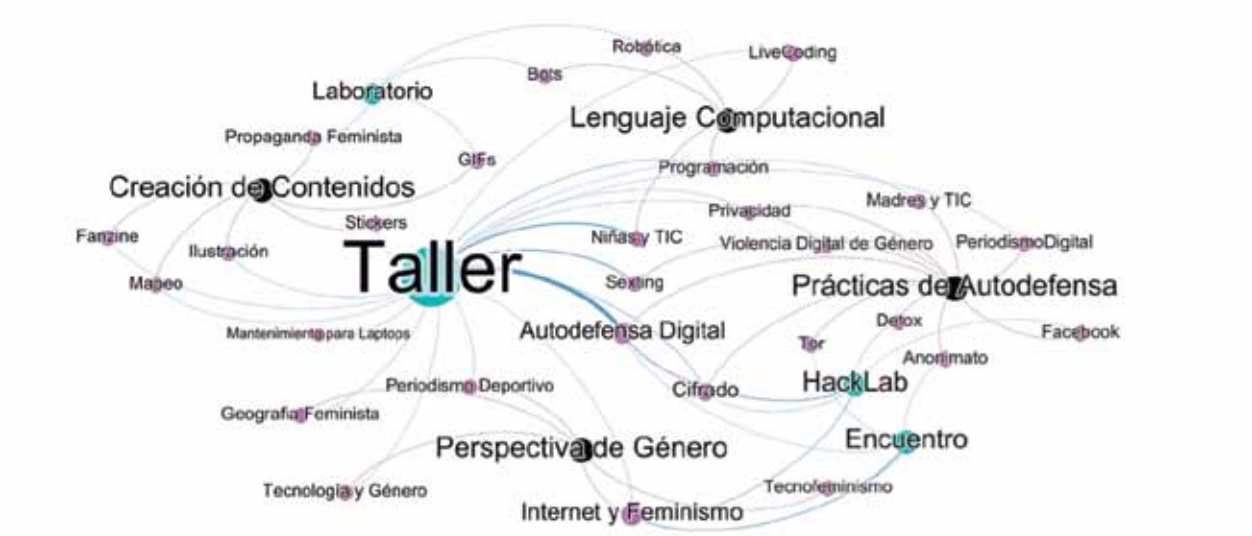
with technology without putting this learning into practice - and incidence -which implies the specific use of technologies to influence or modify concrete situations. This is important because is supposes a frame of analysis of not one but three dimensions of the informal learning networks analyzed, as explained in the following paragraphs.

Firstly, there is the semantic dimension called reflection, based on modalities: Discussion, Lecture, Forum, Panel, Book Club and/or Livechat[7]. Next, there is the appropriation dimension accompanied by the modalities: workshop, *Hacklab*, meeting and laboratory. Finally, in the incidence dimension, there are the modalities: Editatona, Editatón[8], report submission and exhibition. In all three cases, the order of the topics is mentioned in accordance with the highest centrality of degree product of ARS.

As imagined, these three dimensions complement each other and there are even events in which it is impossible to distinguish which has higher emphasis given that more than options to choose from, they are interconnected learning ecosystems that go together with the passing of the space-temporalities. Nevertheless, the results show the level of appropriation is carried further when there are more developed practices of incidence or political enunciation. In addition, and of no less importance, the reflection becomes a variable of entry to the practices of appropriation.

In relation to the variables of shared meaning proposed in regards to the topics, standing out is the critical reflection on digital violence in the field of the reflection dimension, in particular with the topics of digital gender violence and technology and gender. In the dimension of appropriation, there is content creation (feminist propaganda, gifs, stickers, among others), computational language (programming, live coding, robotics, bots, among others), gender perspective (internet and feminism, techno-feminism, feminist geography, etc.) and self-defense practices (privacy, sexting, detox, tor, encrypting, etc.) (See Image 2, in which the topics are in purpose, the modalities in green and the variables in black).

Image 2. Semantic Networks of Appropriation Dimension.



Source: Author.

Finally, in the incidence dimension, there is the semantic network centered on formats of intervention, mainly associated to the topics of digital gender violence - report submission modality- and the different writing exercises on Wikipedia to decrease the difference in the number of women in disciplines like art, film, politics, soccer, science, journalism, etc. (See Table 1).

Table 1. Semantic Dimensions and Variables.

Dimension of Meaning (Modalities)	**Modalities**	**Meaning Variables (Themes)**
Reflection	• Discussion • Lecture • Forum • Panel • Book Club • Livechat	• Critical Reflection on Digital Violence
Appropriation	• Workshop • Meeting • Hacklab • Laboratory	• Content Creation • Computational Language • Gender Perspective • Self-Defense Practices
Incidence	• Editatona • Editatón • Report Submission • Exhibition	• Intervention Formats

Source: Author.

5. Conclusions

Although the initial objective was to analyze the appropriation on the feminist collective network, the appearance of two other dimensions (reflection and incidence) based on the connection of modalities reveals significant relationships that contribute to the processes of technological appropriation in Mexico. The modalities of the reflection dimension promote socialization and the significance from a dialogic perspective, without going into the use. The discussion (the network's second most popular modality), lecture, panel, and other modalities of that variable have conversation as axis, with the exchange of experiences, knowledge, doubts, opinions and proposals from horizontality (that is, although they suppose the participation of specialists in the topics, it is sought to not highlight the category of experts in the recognition that all contributions are valuable). Conversation, as axis of socialization of meanings that promote reflection, does seek to generate consensus but rather widen the frameworks from which other significations of technology in women's lives are produced collectively.

The relationship of the modalities of the reflection dimension with the critical reflection topic variable on digital violence indicates a concern to identify, share experiences and create networks regarding a vital issue for the female population. Nevertheless, at the same time there is the gender perspective topic variable, with topics relative to differences in the use of devices, the practices and the digital habits; and including specific theoretical and political positions, like feminism and technofeminism, that themselves constitute frameworks of interpretation for the relationship between women and technology. Although in the reflection dimension there are no activities that promote use, it does contribute to processes of appropriation by re-significate practices, platforms, devices and experiences via dialogic exercises.

In the appropriation dimension, there are modalities oriented to promoting use (learning on programs, devices, or platforms), linked on a level of collective *subjectivation* (where learning is generated alongside) and that allow for a process of re-signification that transforms the position of feminine exclusion from digital technologies. In the modalities of appropriation, women's agency is recognized, since they are focused on the *do, experience, or make.*

An initial significant relationship arises from the workshop modality (as a collective, creative and horizontal space) and the content creation topic variable. This relationship indicates a learning proposal leading to the generation of communicative products: fanzines, *gifs*, illustrations, maps, videos, etc. In this sense, there is another underlying purpose: convert women into emitters, with their own messages, produced with digital technologies.

Another highlighted node is self-defense practices, as a topic meaning variable that emerges linked to the critical reflection variable on digital violence (the central theme of the reflection dimension). Here we understand generating knowledge in regards to topics of digital security, encryption, anonymity and privacy contributes to preventing, decreasing and blocking digital violence practices that women face. Said knowledge includes strategies for the using everyday platforms (like *Facebook),* safe browsing programs (like *Tor*) and tools for specific groups *(*mothers, journalists, activists*).*

Two topics deserve special attention: digital self-defense as a feminist proposal that seeks to shit from the concept of violence *risk* to the concept of violence *prevention;* and safe *sexting*, that in addition to knowledge about digital security includes a process of appropriation of the body, sexuality and the right to enjoyment. Thus, in this node, there is promotion of uses, socializations and significations that revendicate the right to participate in ICTs: in the face of violence that that seek to exclude them from digital environments, women transform their position as victims to maintain themselves as active participants.

The self-defense practices topic variable appears linked to the modality of *HackLab* or feminist hacker laboratory, which implies processes of appropriation with specific characteristics: a) the use of free software, of open codes and licenses coming from the free internet culture paradigm, that fight for technological autonomy outside the logics of dominating companies; b) socialization from hacker ethics, that situates enjoyment at the center of technology use; and c) the recovery of the meaning of *to hack* as using the different technologies in transgressive, creative ways, with purposes di-

fferent from those for which they were designed. Finding a proposal that gives women autonomy, enjoyment, and transgression speaks of an appropriation opposite to the usual technology socialization processes.

In this sense, a last significant relationship is that of the *HackLabs* with the computational language topic category, which includes themes considered to be highly specialized such as programming, robotics, bots and live coding. These topics take on the challenge of understanding the language of the technological devices, of commanding the activities that these perform, and to a certain degree, dominate technology. The fact that this thematic variable encompasses activities directed at girls constitutes the most radical part of the appropriation proposal because it aims at impeding technology exclusion from an early age on a symbolic, practical and cognitive level.

Thus, the topics and modalities of the network of appropriation are associated with the possibilities of participating in a different way in digital environments, in industries such as art, journalism and even activism. An indication of this is the appearance of the incidence dimension in the network, where there are activities with major results not only for women that participate in its process of production but rather for people in general within and outside digital environments: exhibition of audiovisual productions that are widely disseminated, reports on specific problems, or the creation of web content. In this sense, the Editatona, which is held with the purpose of increasing entries on women in Wikipedia, is considered the most complete modality within networked learning: it implies a reflection on gender inequality in website content; it generates processes of technological appropriation for the use of a platform of content creation, with the learning of the editing rules and those of encyclopedic writing; and it occurs directly on the internet, upon increasing the quantity and quality of informative references with gender perspective in the world's most popular encyclopedia. Also noted is the presentation and publication of the report "Violence on-line against women in Mexico", presented to the Speaker on violence against women of the United Nations Organization in November 2017; this report, in addition to the relevance on the topic, constitutes the first documentary effort made by this collective network of feminist techno-politics, in collaboration with international organizations like the Association for Progressive Communications (APC) and the UN itself.

In conclusion, the analysis of the learning networks formed from the work of feminist technopolitical collectives in Mexico reveal a proposal that seeks to transform the relationship of women with information and communication technologies via their use, socialization and meaning. Specifically, with the appearance of an ecosystem of interrelations of reflection, appropriation and incidence among themes and modalities that allow for other forms of political participation understood as new frames of meaning with gender perspective.

Notes

1 In addition to gender, the digital gap encompasses other social categories that determine the differences in ICT participation, such as age, income, class, geographic location, etc. These categories are intersectional, and therefore, the gaps increase depending on the location of the people in more than one of them.

2 Here we refer to the concept of agency of Sherry Ortner (1984, p.126), who defines it as the capability of social subjects to actively transform their structural conditions.

3 According to the National Survey on the Dynamics of Household Relationships (INEGI, 2015), it is estimated that 6 out of every 10 women age 15 or older have been victims of gender violence. According to the UN Women (2018), 9 women are murdered every day in the country. These statistics have become visible with paradigmatic cases illustrating the impunity in the justice system, the criminalizing of gender violence victims on behalf of authorities and communication media, and the complicity of the institutions. In regards to this situation, non-institutional movements have increased (which is to say, performed on dates other than March 8, known as International Women's Day and November 25, known as International Day Against Gender Violence).

4 This hashtag was used to promote the National Movement against Chauvinistic Violence, also known as "Purple Spring", April 24, 2016, derived from cases of harassment and sexual violence that receive ample notoriety. The march took place in over 40 cities, accompanied by testimonies in digital networks that denounced abuses, harassment and rape of hundreds of women.

5 On April 24, 2016 the Purple Spring March was held, and November 25, 2018 was the most recent International

Day Against Gender Violence, two dates considered important in order to frame the period of data collection.

6 In the registers by category, there are 50 topics, 37 backers, 32 collectives (25 collectives that work on the issue of technology, 7 that work on other topics), 19 venues located in 9 locations, 14 exhibitors and 14 modalities. The analysis of the entire corpus is found in another article (Pedraza and Rodríguez, 2019)

7 Lectures given using digital platforms, in contrast to other modalities, that are in-person.

8 An Editatón is an editing marathon of Wikipedia articles performed in certain spaces, where any person can participate. Its difference from the Editatona lies in that in the latter: a) only women participate; b) only topics related to women are edited.

References

Becerril, W. (2018 a). Mujeres que codean: la apropiación tecnológica de estudiantes egresadas de Laboratoria en México [Women that code: technological appropriation of students graduated from the Laboratory in Mexico]. *Controversias y concurrencias latinoamericanas [Latin American controversies and concurrences] Vol. 10 N°16*, 67-75.

Becerril, W. (2018 b). Indagar las apropiaciones tecnológicas desde una perspectiva de género feminista [Inquiring the technological appropriations from a feminist gender perspective]. En S. Lago (coord.), *Acerca de la apropiación de tecnologías: teoría, estudios y debates [About technology appropriation: theory, studies, and debates]* (págs. 65-84). Buenos Aires: Del Gato Gris.

Boix, M. (2015). Desde el Ciberfeminismo hacia la Tecnopolítica feminista [From Cyberfeminism to Feminist Techno-politics]. *Revista Pillku [Pillku Magazine], 18*. Disponible en https://pillku.org/article/desde-el-ciberfeminismo-hacia-la-tecnopolitica-fem/

Braidotti, R. (2002). Un ciberfeminismo diferente [A different cyber-feminism]. *Debats,* 76, 100-117.

Castaño, C. (2005). *Las mujeres y las tecnologías de la información. Internet y la trama de nuestra vida [Women and information technology. Internet and the plot of our life].* Madrid: Instituto Andaluz de la Mujer.

Castaño, C. & Caro, A. (2014). Comprender la Publicidad para Transformar la Sociedad [Understanding Advertising to Transform Society]. *Cuadernos.info*, (34), 39-46. https://dx.doi.org/10.7764/cdi.34.584

Caro, A. (2002). *La publicidad de la significación (marco, concepto y taxonomía) [Advertising of signification (frame, concept and taxonomy)].* Madrid: Servicio de Publicaciones de la Universidad Complutense. Disponible en http://www.ucm.es/eprints/1788/.(2016). La brecha de género en la 4ª revolución industrial. *Gaceta sindical: reflexión y debate [The gender gap in the 4th industrial revolution. Union Journal: reflection and debate]*, (27), 97-106.

Castaño, C. & Caprile, M. (2010). Marco conceptual sobre género y tecnología [Conceptual framework on gender and technology]. En C. Castaño, & M. Castells (Ed.). *Género y TIC. Presencia, posición y políticas [Gender and ICT. Presence, position and politics]* (pp. 21-81). Barcelona, España: UOC Ediciones.

De Sanmamed, A., Flecha, F. & Elboj, C. (2002). Mujeres, aprendizaje dialógico y transformación social [Women, dialogical learning and social transformation]. *Contextos educativos: Revista de educación [Educative Contexts: Education Journal],* 5, 159-172.

Doerfel, M. L. (1998). What constitutes semantic network analysis? A comparison of research and methodologies. *Connections*, 21(2), 16-26.

Eddington, S. M. (2018). The Communicative Constitution of Hate Organizations Online: A Semantic Network Analysis of "Make America Great Again". *Social Media + Society*, 4(3), 2056305118790763.

Goodyear, P., Banks, S. H. & McConell, D. (2004). *Advances in Research on Networked Learning.* Londres: Kluwer Academic Publishers.

Gross, B. (2011). *Evolución y retos de la Educación virtual [Evolution and challenges of virtual education].* Barcelona: UOC.

Haraway, D. (1995). *Ciencia, Cyborgs y mujeres. La reinvención de la naturaleza [Science, Cyborgs and women. The reinvention of nature].* Madrid: Cátedra.

Hargittai, E. (2007). Whose Space? Differences Among Users and Non- Users of Social Network Sites. *Journal of Computer-Mediated*. *Digital Media and Masculinity Communication,* 13(1), 276-297.

Hawthorne, S., & Klein, R. (1999). *Cyberfeminism [Cyber-feminism].* Melbourne: Spinifex Press.

INEGI- Instituto Nacional de Estadística y Geografía [National Statistics and Geography Institute] (2015). *Encuesta Nacional sobre sobre la Dinámica de las Relaciones en los Hogares [National Survey on the Dynamics of Household Relationships]*. Ciudad de México [Mexico City]: Instituto Nacional de Estadística y Geografía.

Internet Governance Forum (2017). *Latin America in a Glimpse: Gender, Feminism an Internet in Latin America*. Suiza: Derechos Digitales/APC.

Jones, C. (2008). Networked Learning-a social practice perspective. *In Proceedings of the 6th International Conference on Networked Learning* (pp. 616-623). Lancaster: Lancaster university.

Kim, L. (2013). Denotation and connotation in public representation: semantic network analysis of Hwang supporters' internet dialogues. *Public understanding of science*, 22(3), 335-350.

Maffía, D. (2017). Epistemología feminista: la subversión semiótica de las mujeres en la ciencia [Feminist epistemology: the semiotic subversion of women in science]. *Revista Venezolana de Estudios de la Mujer [Venezuelan Journal of Women's Studies], 12-(28)*, 63-98.

Morales, S. (2011) "Acceso y apropiación de Tecnologías de la información y la comunicación. Una apuesta de política pública en educación. [Access and appropriation of information and communication technologies. A public policy and education wager]". En Cabello, R. & Morales, S. (eds.) *Enseñar con tecnologías. Nuevas miradas en la formación docente* [Teach with Technology. New perspectives on teacher training] (pp.-47-75). Buenos Aires: Prometeo.

Natansohn, G. (2014). Por una agenda feminista para Internet y las comunicaciones digitales [For a feminist agenda for the Internet and digital communication]. *III Congreso Género y Sociedad [III Gender and Society Congress], Voces, cuerpos y derechos en disputa [Voices, bodies, and rights in dispute].* Córdoba: Universidad Nacional de Córdoba.

Natansohn, G. (2013). *Internet en código femenino. Teorías y prácticas [Internet in feminine code. Theories and practices]* Buenos Aires: La Crujía.

Núñez, S. (2011). Activismo y colectivos en red: praxis feminista y violencia de género [Activism and collectives in internet: feminist praxis and gender violence]. *Asparkía. Investigación feminista [Feminist Research]*, 85-98.

ONU [UN]. (2015). *Informe final del Grupo de Trabajo sobre Género de la Comisión de Banda Ancha [Final Report of Gender Work Group from the Broadband Commission].* Nueva York: Comisión de las Naciones Unidas para la Banda Ancha-UIT-UNESCO.

ONU-Mujeres [UN Women]. (2018). Comunicado del Día Internacional de la Erradicación de la Violencia contra la Mujer [Memo from the International Day for the Eradication of Violence Against Women]. Ciudad de México: ONU Mujeres.

Ortiz Henderson, G. y Garay Cruz, L. M. (2015). Comunicación, cultura y educación: nueve aproximaciones al estudio de las tecnologías digitales [Communication, culture, and education: nine approaches to the study of digital technologies]. Ciudad de México: Universidad Autónoma Metropolitana y Juan Pablos Editor.

Ortner, S. (1984). Theory in Anthropology since the Sixties. *Comparative Studies in Society and History* 26(1), 126-165.

Pagola, L. (2010). Sensibilización tecnológica, mujeres construyendo la sociedad del conocimiento [Technologic awareness, women building the society of knowledge]. En S. Chaher, & S. Santori, *Las palabras tienen sexo II. Herramientas para un periodismo de género* [*Words have sex II. Tools for gender journalism*] (pp. 73-91). Buenos Aires: Artemisa Comunicaciones.

Pedraza, C. & Rodríguez, C. (2019). Resistencias sumergidas. Cartografía de la Tecnopolítica Feminista en México [Submerged Resistances. Cartography of Feminist Techno-politics in Mexico] . (Manuscrito sometido para publicación)

Plant, S. (1998). *Ceros + Unos. Mujeres digitales y la Nueva Tecnocultura [Zeros + Ones. Digital women and the new techno-culture].* Barcelona: Destino.

Rebollo-Catalán, Á., Pérez, R., & Vico-Bosch, A. (2015). El aprendizaje de las mujeres de las redes sociales y su incidencia en la competencia digital [Women's learning on social network and its incidence in digital competence]. *Prisma Social: revista de investigación social [Social Prism: journal of social research],* 15, 122-146.

Reverter, S. (2013). Ciberfeminismo: de virtual a politico [Cyber-feminism: from virtual to political]. *Teknocultura*, 451-461.

Reverter, S. (2001). Reflexiones en torno al Ciberfeminismo [Reflections regarding cyberfeminism]. *Asparkía: investigación feminista [feminist research]*, (12), 35-51.

Rovira, G. (2018). El devenir feminista de la acción colectiva: las redes digitales y la política de prefiguración de las multitudes conectadas [The feminist coming about of collective action: digital networks and the default politics of connected multitudes]. *Teknokultura*,15 (2), 223-240.

Sierra, F. & Gravante, T. (2017). *Networks, movements and technopolitics in Latin America. Critical analysis and current challenges.* London: Palgrave-IAMCR.

UIT. (2017). *Measuring the Information Society Report.* Ginebra: Unión Internacional de Telecomunicaciones.

UNESCO. (2019). *Descifrar el código: la educación de las niñas y las mujeres en ciencias, tecnología, ingeniería y matemáticas [Decipher the code: girls and women's education in sciences, technology, engineering and math] (STEM).* París: UNESCO.

Vergés, N., Hache, A., & Cruells, E. (2011). Indagando en la relevancia de Internet en el acceso, uso y deseos de las TIC por parte de las mujeres [Inquiring into internet relevance in the access, use and desires of the ICTs on behalf of women]. *Teoría de la Educación [Education Theory]. Educación y Cultura en la Sociedad de la Información [Education and Culture in the Information Society],* 12, (2), 105-121.

Wajcman, J. (2006). *El Tecnofeminismo [Techno-feminism].* Valencia: Cátedra.

Wasserman, S. & Faust, K. (1994). *Social network analysis: methods and applications*. Cambridge: Cambridge University Press.

Winocour, R. (2007). Nuevas tecnologías y usuarios, la apropiación de las tics en la vida cotidiana cotidiana [New technologies and users, the appropriation of ICTs in daily life]. *Telos: cuadernos de comunicación e innovación [Telos: notebooks of communication and innovation]*, 109-117.

Zafra, R. (2005). *Netianas. N(h)acer mujer en Internet [Netwomen. Making/Being born woman on the internet].* Madrid: Lengua de Trapo.

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