Knowledges, Practices and Activism from Feminist Epistemologies

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Critical Perspectives on Social Science

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Science, Technology and Gender studies are included within the wider field of Science, Technology and Society studies (STS). These studies form an interdisciplinary field made up of a large diversity of programs in research, education and management whose common nexus consists of dealing with the interrelationships between science, technology and society from diverse perspectives and disciplines. In the field of management, they seek to promote public policies in science and technology that are democratic and socially responsible; in the field of education, from the complex relationships that exist between science, technology and society, they try to shape conscious and responsible citizens (whether scientists and technologists, or not); in the field of research, the idea is to unravel the threads that intertwine the three areas, which are often very difficult to observe.

The development of research in this field over the past 30 years has consisted of a growing closeness with real scientific-technological practice. Increasingly micro-social works have been providing an image of scientific activity that is intimately linked with instrumental and conceptual developments, converting the study of science into the study of scientific practices and culture. In the 1970s, social studies in science and technology basically focused on causality and symmetry in scientific activity and in the 1980s attention turned to details, that is, to laboratory

studies and technology, while at the same time a relativistic escalation emerged. As of the 1990s, a certain curbing of the epistemological audacity coming from relativism took place, and what became a focus of greater interest were material agency, scientific practices, the plurality of ways to do science and criticism of the social effects, harmful or not, of science and technology from a more sophisticated theoretical perspective. This perspective takes advantage of philosophical and sociological developments, and in practice evolves towards proposing new ways of managing science and technology.

Today, impressive growth in the field and the multiplicity of disciplines and approaches that overlap in it have made obsolete old disciplinary distinctions, or the division between the "two traditions" of STS, one "academic" and another "activist". So, if you want to make a classification of the different work found within "studies on science and technology", well, they are huge and diverse. But we can construct some common characteristics around the three thematic lines that already appear in work from the 1970s and 1980s, but which are deepened and developed as of the 1990s. These three thematic lines, which we can call fragmentation, stabilization and hybridization, refer to the usual way of dealing with scientific-technological phenomena: making explicit their diversity and heterogeneity, perceiving their composition and legitimization, and underlining the nexus that connects objects of study, actors, instruments, disciplines, communities and institutions both within and outside of the now diffuse borders between science and technology. We could say that we have gone from the study of science in society to the study of the culture of science and technology until arriving at the study of technoscientific culture.

General currents in studies on science and technology underline the coproduction of technoscience and society: the social and technoscientific orders are jointly coproduced in complex frameworks of mutual influences, and the work presented here constitutes good examples. Scientific knowledge is one more cultural formation, which has to be understood by analyzing it in detail. Said in another way, what is researched through these studies is the traffic between the setting-up of knowledge and the cultural formations and practices that certain currents of thought have considered "external" to knowledge. That is why cultural repertoires are one more brick in the structure. Agents of technoscience invent artifacts, practices, etc., but in spite of their rhetoric, they do not only resolve problems, but also create them. Problems do not exist in a vacuum, are not isolated, but rather are created and delimited by the solutions agents offer (at times naively).

These types of approaches have, minimally, the following characteristics: they are anti-essentialist regarding science; they put emphasis on the cultural character of science and how to open it up; they maintain a non-explanatory commitment to scientific practices as well as to the material, local and discursive character of scientific knowledge; they seek to subvert scientific conceptions that affirm the value-neutrality of science and, finally, they maintain a commitment to epistemic and political criticism from within the culture of science.

Traditionally, scientific communities were considered to be relatively closed, homogenous and they did not interact with other social groups nor with other cultural practices. But STS studies have shown that this is not so. On the one hand, the way of doing science and technology has changed so much, their activities and practices are so interwoven, that in reality it is very difficult to separate them, and today we speak about technoscience. But additionally, if problems were considered within the disciplinary structure in the past, now it is within the context of application, which increasingly demands transdisciplinary structures (and which causes new disciplines to constantly emerge). If interests, institutions (mainly universities and state organisms) and activities were homogenous before, today there are heterogeneity of interests, participating institutions (businesses, NGOs, etc.) and activities. If the structure was hierarchic and authoritarian before, now it is more open, heterogeneous and transitory, with greater interaction between multiple actors, who have greater social responsibility, as opposed to the individual responsibility typical of academic science. And if before it was the scientific community itself that evaluated the results, today there is a larger range of control mechanisms in which there is room for other interests, values, etc. Ziman (2000) thus drew the distinction between academic science and post-academic science, similarly to how Gibbons et al. (1994) distinguished between science in Mode 1 and science in Mode 2.

In current technoscience, social responsibility competes with the scientific community and with society in general. There is traffic or transfer between what is inside and outside of science, between the scientific and the social. This transfer flows in two directions. Not only do achievements from the scientific community reach society, more or less rapidly and more or less transparently, but also the transfer from society to the scientific community is enormous: financial and material and personal resources are taken from society, but also problems to research, vocabulary and metaphors that guide the research and propose solutions, and even the solutions themselves appear from society, such as the

relationship existing between the pharmaceutical industry and the scientific.

Science, Technology and Gender studies include the different approaches to feminist epistemologies, their current debates and the theoretical analysis of different scientific controversies around cases that involve women's bodies and health, sex/gender, and technoscientific practices. In all cases, the work of a socially fair and objective science (in Sandra Harding's sense of "strong objectivity") has been related to different proposals for models of governance, public participation and activism in science and technology. This is also linked to theoretical production around the rupture of the expert and lay knowledge. In this sense, it is relevant to the demand for another type of hybrid knowledge that revalorizes practices, embodied experience and care, as well as the subject positions traditionally excluded from the scientific community. The diversity of voices has allowed a plurality of knowledge in technoscientific practices and the identification of gender, class, sexuality, race, and functional diversity inequalities, among others. This has made a bioethical reflection possible, which is not understood as abstract normative principles but linked to practices and lived experience. Finally, this diversity of voices has enabled the development of collaborative and innovative methodologies, and as such the identification of areas of ignorance and scientific fields that have still not been worked on.

The texts in this book were presented, albeit in a shorter format, at the XII International Workshop on Science, Technology and Gender: Knowledges, Practices and Activisms from the Feminist Epistemologies. This workshop was funded by the Spanish MINECO, through the following projects: "Multiple Voices, Plural Knowledge and Biomedical Technologies" (MINECO: FFI2015-65947-C2-1-P) and "Feminist epistemologies and activisms in health: practices, care and emerging knowledge in biomedical contexts" (FEM2016-76797-R).

They are articulated in three parts. In the first, epistemological, it addresses fundamental theoretical questions that feminist epistemologies raise; and how they confront complex social problems, such as gender-based violence. The second part, methodological, deals with research practices or processes, explicitly showing the relationship between science and policy. Finally, the third part presents some case studies, particular and descriptive, that show the multidimensionality of the problems and the depth and richness of these analyses. We will now go into each of the aspects dealt with in each of these parts in greater depth.

Part I. Feminist epistemologies and participative knowledge

Epistemology is the general inquiry into knowledge that deals with nature, sources and limits of knowledge, its conditions of possibility and the general viability of affirmations on knowledge; this is understood as not only true belief, that is, it is not considered knowledge when a suspicion is fulfilled or when we wish something to be so and later it is. Epistemology does not concern itself with evaluating a concrete belief or how we arrived at it, but rather if we are justified in affirming that we know some complete type of truths or, in fact, if knowledge is possible.

So, a fundamental question is: what is necessary for a belief to be considered knowledge? In this aspect, opinions in epistemology are divided. There is a historically dominant tradition (the normative tradition) that sustains that what turns a belief into knowledge is the quality or type of reasoning we give to support it: if this was sufficiently solid, we would consider it to be knowledge. The naturalist tradition, on the other hand, maintains that it is the conditions in which the beliefs are acquired that produce true beliefs.

Some recent developments question various aspects of these two traditions. For example, they focus on the characteristics of the knowing subject and not on individual beliefs or on sets of beliefs. As such, what is known as virtue epistemology defends that if the true belief is the result of exercising intellectual virtue (whatever this may be, which is not relevant here), then it is knowledge. This position integrates characteristics from the normative tradition as well as the naturalist, while at the same time introducing some aspects forgotten in epistemology, such as the connection between knowledge and wisdom or understanding. Other developments challenge certain suppositions from traditional epistemology, such as the case of cognitive pluralism or of epistemic relativism, which maintains that no set of rules for acquiring beliefs exists that adapts to all people in all situations. Among these recent developments is found, of course, what is known as 'feminist epistemology.'

Feminist works in epistemology have emerged from feminist criticism of the sciences, feminist readings on the history of philosophy, research on educational psychology and the analysis of suppositions and presuppositions from analytical epistemology. Sociological, historical and anthropological studies on different scientific disciplines have pointed out how contextual values – that is, social, ideological, economic, etc. – guide research, determine what hypothesis is chosen, which method of comparison we are going to use; these values, in short, limit what we are going to know. But theoretical-conceptual aspects also reproduce gender

ideology, as work done on the role of gender metaphors in diverse disciplines such as primatology (Haraway, 1989), ethology (Bleier, 1984), human biology (Fausto-Sterling, 1985) or cellular biology and genetics (Fox Keller, 1995) have revealed.

Critical examinations of the history of philosophy have been fundamental when it comes to maintaining the ideologically masculine character of epistemological concepts. Philosophers such as Genevieve Lloyd (1984) have shown how particular concepts, such as 'rationality' or 'objectivity', arise from masculine stereotypes and have outlined the association between rationality and masculinity from Plato to Kant and Hegel. The masculinization of reason by means of metaphors has been an object of analysis by diverse scholars (for example, Rooney, 1995). And Elizabeth Lloyd (1995) has analyzed the multiple meanings of objectivity and how certain philosophers use a double standard when analyzing feminist epistemologies.

Educational psychology has suggested that the way of confronting and resolving problems may be different according to gender and that the behavioral standards of each gender could include the acquisition of cognitive gender standards. History shows that cognitive abilities, at least in their most developed form, have been attributed to males in such a way that their expression in women is considered inappropriate or monstrous; that in the natural sciences, descriptive and explanatory patterns persist that are androcentric and biased by gender; that in the social sciences and with behavior, the ways of theorizing are such that women become invisible as cognitive agents and social actors, so their subordination is considered inevitable and natural.

The questions that feminist epistemologies ask are about what type of conception of knowledge and *cognoscent agent* supports or facilitates this analysis, and what conceptions can obstruct sexist movements; if there are justifying concepts that show why representations of gender found in the social, behavioral and natural sciences seem correct, and why they do not; if it is possible to rethink the concepts of truth, rationality, objectivity, etc., in such a way that gender biases can be eliminated from them, etc. Some of these questions, as we will see, are dealt with in this book.

But, in addition, feminist epistemologies try to fundamentally contribute to an actual change in knowledge that involves ways to intervene in society from a women-centric perspective. In this sense, objectivity is far from being removed from the feminist agenda. Quite the opposite, feminist epistemologists are keen on showing how wrong it is to think of objectivity in terms of valuing neutrality, and they try to rescue it from relativism. This position is in line with the normative character of

feminist epistemologies. For feminists, any contribution to knowledge must imply the capacity to act. Therefore, epistemologists are forced to go deeper into the problem of objectivity or, in other words, of the potential mechanisms to discern different visions of the world. In this context, objectivity is subjected to a Reconfiguration, introducing an ethical, political and an embodied dimension to the debate (see chapters 1 and 2).

Part II. Methodology and research practices

If epistemology is a theory of knowledge, methodology is a theory on the *processes* that research follows, or should follow, and a way of analyzing them. Feminist methodology, in turn, starts from feminist epistemologies: the debates revolving around the subject of knowledge, what can be known and how knowledge is validated, etc. There are those who speak about a feminist methodology, and those who maintain that feminism only represents what is political in the use of research (it would be behind the methodology, not in it itself); other authors refer to feminist research techniques, or reject the "feminist" status of certain ones in particular (like the unidirectional interview), but for others these are neutral; from other perspectives, only the selection of objects for study or the formulation of questions are feminist, and for others, tentative answers also have to do with our conception of the world, etc. (Bartra, 2010). What is indeed clear is that feminist methodology expresses, explicitly, the relationship between science and politics. This does not mean to say that political interests or ideology do not exist in other research, but rather that these simply remain hidden behind the rhetoric of neutrality (Bartra, 2010).

In her now classic text, Sandra Harding (1987) wondered about the existence of a feminist methodology and described the methodological characteristics that research should have to be feminist. The author concluded: it begins with women's lives in order to identify the conditions on which research is needed, and what could be useful (for women) that is examined from these situations. The objective is to show and denounce how the perspective of rich white men, constructed as universal and neutral – like the gaze from nowhere – leads to biased and perverse views of social life. A feminist methodology recognizes the importance of women's experiences as a resource for social analysis; and it is women, in their diversity, who should reveal what these experiences are (that is, it should not be androcentric or sexist). From this perspective, feminist research has revised a good part of the knowledge and important theories from the disciplines, acting as epistemic correctives and doing the science that still has not been done (García Dauder & Pérez Sedeño, 2017).

Feminist research fights against the historic exclusion of women as subjects of knowledge and, at the same time, against the construction of reality in androcentric terms; that is, taking what is biased toward the masculine as a universal reference. But it also confronts the essentialist and unequal construction of sexual dualism that reinforces sexual division in work, and other material and symbolic gender hierarchies. In this sense, the object of study in feminist research includes any analysis on gender relations that has as its object changing conditions of inequality (not just studies "about women"). That is to say, what is deconstructed by means of feminist methodologies is both the exaggeration of differences between the sexes (taking what is feminine as being inferior), as well as their minimization by placing what is masculine as the norm and excluding, devaluing or making invisible what is feminine (Hare-Mustin & Marecek, 1994). From feminist empiricism, for example, it is imperative to methodologically examine gender biases which, in both senses of exaggerating or omitting differences, may form part of the entire research process.

But as Harding (1987) herself admits, if the universal man does not exist, neither does "the woman," and even less "the woman's experience"; that is, women are presented only in different classes, races, cultures or sexualities. Thus, feminist methodology must necessarily start from women's intersectional and fragmented experiences, and from the multiple and contradictory realities that make up these experiences. The tensions and conflicts between women form part of the "knots of feminist wisdom," and are reflexive and dialogic tools showing the power relationships between women (Vargas, 2015). This methodology should also start with theoretical questioning on what the "women" subject whose experience is going to be researched is based on and how it is conceptualized. This, in turn, requires a feminist scientific community where different socially relevant points of view (Longino, 1993) and different oppressed groups, from whose experiences has produced much ignorance and epistemic injustice (Tuana, 2006; Fricker, 2007), participate and are represented. That is, any reflection on feminist methodologies should at the same time pay attention to the relationships between diversity (in terms of cognitive democracy) and objectivity (Harding, 2015).

Harding (1987) adds to her feminist methodology that the questions an oppressed group hopes to have answered are usually questions about the possibility of modifying their conditions. In this sense, feminist research can be done on any object of study, as long as it is committed to improving women's lives. Feminist methodology starts from the experiences of

women, in all their diversity, with the purpose of offering explanations for social transformation and on their political fight. And to do this, as is noted in the chapters in Block II, methodologies are needed to collect and analyze subjectivities or psychological mechanisms of power that can be capable of delving deeper into the processes of subjection, but also into agency and resistance. That is, committed and responsible research, in terms of response-ability (Haraway, 2012), whose effects and benefits for women and other collectives go beyond the academic sphere. A feminist methodological challenge, then, is to consider which research methods can be more effective to reflect women's life experiences from an intersectional approach, and which contribute to social transformation. This also implies linking the historic and material conditions for producing knowledge (for example, conditions of war, crisis, etc.) with the creation of knowledge (Leyva, 2015).

A reflection on feminist methodologies in research, in this sense, would go beyond a reflection on the methods used, that is, on the techniques for collecting information (if a feminist interview or ethnography is possible, for example, about the quantitative or qualitative, etc.). As Harding (1987) points out when you speak about "a method of research," referring exclusively to this specific sense of "technique," the depth of the transformations required by feminist analysis is undervalued. Even so, feminist methodologies and epistemologies demand renovated uses of conventional research techniques, and it is necessary to be aware of this. Throughout the book, especially in Block II on Methodology, analysis will be introduced on new uses, in a feminist sense, of conventional research techniques and on innovative methodological resources in this sense, for example, in the use of participative means of audiovisual communication (Rivera Cusicanqui, 2010). Also, feminist debates around these, like for example the role of empathy in the interview (Oakley, 1981) or in feminist ethnography (Stacey, 1998). On the one hand, the importance of techniques that allow dialogical and reciprocal encounters between researcher and participant (not only asking, but also sharing knowledge), that break with the rigid subject-object distinction; but, on the other hand, constant ethical revision when facing the risk that the "transition to friendship" during the interview (Oakley, 1981) moves toward a vulnerable instrumentalization of the participant, who ends up telling what they do not want to tell out of trust (Cotterill, 1992). In this sense, there exists abundant feminist literature on the ethical and political role of the use of emotions – and of emotional work – in research, as seen in chapter 3.

The last characteristic of feminist methodology (of the "best feminist studies," always following Harding) is that they place the researcher on the

same critical plane as the explicit "object" of study. It is what the author calls "strong reflexivity" (Harding, 1996). This implies being aware of the research processes, interferences or diffractions (Haraway, 1999). Far from a distant and representationist perspective, it requires realizing how research is co-produced by means of forms that are situated, (corporally) committed and responsible for the research (Haraway, 1995; Esteban, 2011). As Harding (1987) describes, the body, subjectivities, beliefs, emotions, etc., crossed with gender, class, race or the sexuality of the researcher, should be placed within the frame of the picture that is desired to be painted. Feminist epistemologies and methodologies emphasize the importance of situated knowledge such as objectivity (Haraway, 1995) and, with that, analysis "from below to above" on how the position of the researcher as subject – social, subjective and embodied – affects, interferes and is co-produced in the research. Introduction of this "subjective" element in the analysis, in fact, increases the objectivity of the research ("strong objectivity"), while at the same time reduces the "objectivism" that this type of evidence tends to hide from the public (Harding, 1987). It deals with converting the relationship between researcher and participants also into an object of research; and with this to analyze which committed encounters contribute to better research, make power relationships visible and challenge them, and contribute to mutual questioning (with whom do you converse, who speaks for whom, who has authority to speak, who is legitimized, etc.). The methodological challenge here would no longer be a question of correcting research biases, but rather in thinking of other ways of proceeding that are more horizontal, plural and participative (Leyva, 2015). The vocabulary itself or metaphors on the production of knowledge change: they speak of political semiotics of articulation (Haraway, 1999), of corporal commitment (Esteban, 2011), of committed articulation (Ruiz Trejo & García Dauder, 2018), of feeling-thinking –*sentir-pensar*- (Méndez et al., 2013), etc. In this sense, feminist methodologies make spaces possible for the creation of knowledge (for example workshops, co-laboratories, etc.) where unidirectional ways of scientific communication are challenged, the distinction between expert-layman knowledge is questioned, and hybrid and collective forms of expert-experiential knowledge is produced where the spaces of activism, the street or academia dissolve and at the same time enter into conflict (Ortega Arjonilla et al., 2018).

Part III. Case studies

The case studies involve a methodology for developing qualitative assessments of specific issues. They focus on the multidimensionality that defines problems and their implications. In this sense, they are particular

and descriptive, but also heuristic researches. The well-delimited objects of study make possible the richness and deepness of this type of analysis. In this sense, the intention of the case studies is not obtaining generalizations, but to delve deeper into the problems, trying to highlight the different dimensions that constitute them.

Science, Technology and Society Studies (STS) and Science, Technology, and Gender Studies (STG) have a notable practical nature. These studies serve as a framework for the International Workshop organized by our research group for more than a decade, whose contributions shape this book. Case studies are a fundamental research method for STS and STG studies due to their practical nature. This approach implies carrying out a detailed analysis of the different aspects related to a specific phenomenon, but also to draw theoretical conclusions on such analysis.

The study of the knowledges from feminist epistemologies also implies a special and rich attention to their practical nature and their links with activism. The case studies are relevant to this practical and situated understanding because they show the results and problems of implementing epistemic practices, methodologies, and theoretical frameworks in specific contexts. Thus, they are also interesting because serve as a criterion for assessing specific and situated biases, revealing well-contextualized and defined problems and challenges.

In addition, these researches tend to be closely specific, which facilitates the identification and description of relevant points such as the effects of different biases and their interrelationships. For these reasons, case studies provide direct and well-defined understandings on social, political, and historical characteristics related to the construction of knowledges. It tends also to reveal some of the traditional biases of STS studies, so we might obtain descriptions of these socio-technical processes more "real" and acquire tools for the socio-political transformation of these assemblages. In this sense the practical nature of case studies is ambivalent: all these qualities not only provide advantages for improving the practical application of knowledges, but also for their construction.

The variety of case studies is present in this book. STS and STG studies deal with different issues and in different ways. Therefore, in this book, we find case studies that focus on historical-epistemic issues, where politics and activism have considerable relevance. Other studies attempt to evaluate gender biases and violence present in biomedical or technological developments, where social and ethical matters have a greater value. These case studies question issues such as the traditional image of the family based on the claim of transgender parents, the

androcentric and medicalized study of children's behaviors or women's bodies, the implications of surrogacy reproduction techniques, or the transformation of intimacy and freedom caused by technological advances in information and communication.

Book Content

In **Feminist epistemologies and objectivity: moving towards a feminist science**, Eulalia Pérez Sedeño addresses the crisis of legitimacy of scientific institutions and some criticisms to the traditional idea of objectivity. This has been due to increased distrust of these institutions and the questioning of the independence of the actors involved in expert decisions, as well as the relevance of official recommendations. They acquire an epistemic aspect. Now, to what extent can the new relations between technoscience, society and politics affect what is called "scientific objectivity"? In our view, these new relationships between technoscience, society and politics, produces a democratization of expertise, which contributes to a "better" science (in terms of objectivity and social responsibility and inclusion) or a feminist science. For this, the author considers it is vital to adopt a contextual, feminist and interdisciplinary approach. A contextual approach is fundamental insofar as an inevitable feedback loop occurs between the field of values and scientific inquiry. Adopting a feminist approach is of great importance for two main reasons: it helps to make visible the gender biases (and other types of biases), present in scientific research, that affect society in a detrimental way; it would also make it possible to correct the inequalities that exist in the scientific field itself. Finally, an interdisciplinary approach entails the need to adopt a perspectivist approach, so the same object of study has multiple faces, that it cannot be approached from a single point of view. Only by fulfilling these three criteria, this transformative critique in the form of dialogue can ensure scientific objectivity.

In **How many shades does femicide have? Reflections from feminist epistemology**, Carme Adán Villamarín confronts a complex social problem from the perspective of feminist epistemologies: femicidal violence. The most terrible darkness is created whenever there are no mechanisms to see. In the case of violence against women, its naturalization and the secrecy around it have had many allies. One of them has been the absence of concepts and categories that help shed light onto the social and emotional structures that perpetuate violence as the most fundamental form of social injustice that women have to face. That is why epistemology becomes relevant in this context.

In the field of the eradication of violence against women, feminism has played a fundamental role. Spanish philosopher Celia Amorós has claimed "conceptualizing is politicizing", and the motto is of special relevance in the field of gender violence. In fact, we tend to highlight three key moments in addressing gender violence, namely, knowing, intervening and eradicating. Determining what it is and what gender violence is about is a necessary step to intervene and, also, to prevent.

The categories used in different laws and treaties are the outcome of the reconceptualization produced by feminist theory. An example of this is how the concepts of "domestic violence" have become outdated, or the introduction of "gender" as a concept in the legal sense. Therefore, the author first reviews, from a feminist epistemology, and using the notions of objectivity discussed by Sandra Harding and Donna Haraway, the categories underlying three legal texts from her cultural context: the Spanish Organic Law 1/2004 of 28th December on Measures for the Integrated Protection against Gender Violence, the Galician Law 11/2007 of 27th July for the Prevention and Integrated Intervention in Cases of Gender Violence and, finally the Convention of the Council of Europe on Preventing and Combating Violence Against Women and Domestic Violence (the Istanbul Convention). Secondly, she introduces the concepts of femicide and femicidal violence from an epistemological perspective, as these are terms being widely used in the field of feminisms at present.

The chapter **The role of emotions in feminist research** by García Dauder and Ruiz Trejo emphasizes the epistemic value of emotions in the research process, not only on how the researcher's emotions affect the research process but how the process itself affects – emotionally- the researchers. The authors explain the different reasons why it is important to recognize the role of emotions in research processes: methodological and instrumental, ethical, analytical, political and "healers"; and also expose the drawbacks of emphasizing emotions in research. Starting from the concept of "strong reflexivity" of feminist epistemologies, the chapter emphasizes the importance to reflect on emotions and their different implications in feminist research: the emotional impact of research on the researcher (especially when working with vulnerable population or sensible topics); the "emotional work" involved in the research and, specifically, in the fieldwork (and the ethical dilemmas that may involve); emotions as data/evidence and emotionally sensed knowledge.

Also remarking the necessary social transformation' character of feminist research, **Social cinema 3.0 and digital memory-work: participatory communication and psychic diversity**, by Virginia Villaplana Ruiz, offer us a collective and visual feminist pedagogy with

affective value. The methodological proposal has the aim to break stereotypes about young people with psychic diversity, but also to produce a participatory communication experience. Moreover, put into practice a way of making different films, without distinction of hierarchies, in collaboration, practicing non-authorship film practice. By using video and photo material from the experience, the chapter describes a case study research of visual pedagogy, collective experimentation and dialogic communication as tools for health activism.

In the same line, the chapter **The relevance of subjectivity in feminist and transformative research** by Pilar Domínguez Castillo emphasizes the subjective, situated and incarnated character of feminist research as a collective creation of knowledge, but also involved in social transformation. As feminist, the research has a political responsibility to transform conditions of oppression of women and, in doing so, offers the possibility to become aware of psychic mechanisms of power and resistance. In this sense, the chapter analyses the feminist theoretical developments on subjectivity and power relations.

Gender bias in ADHD: the pathologization of gender roles, by Inmaculada Hurtado García, analyses the implicit androcentrism in the construction and utilization of Attention Deficit/Hyperactivity Disorder (ADHD/ADD), one of the most commonly diagnosed disorders of childhood. This "disorder" is a paradigmatic example of transferring a biomedical category to resignify and give meaning to the experience of child behavior. ADHD is situated at the intersection of medical, psychological and educational discourses, which are committed to the regime of behavior normality in social life. But also, it is a diagnosis based on interpretation of gendered behavior patterns. The author reflects upon the gender bias implied in discourse and practice with respect to ADHD ("ADHD is also a girl's story"), as well as identifies how women are confined to the frame of attention (the inattentive type), and how this difference carries inequalities in social, educational and health resources.

In **Our bodies, our decision: reproductive technologies and public participation**, Natalia Fernández Jimeno starts from the feminist discussions of the 70s when feminists criticized reproductive technologies because of the gender values and scripts implicit in their design. They were considered oppressive, contributed to reinforcing the identification between woman and motherhood and responded to the economic interests of the biomedical and pharmaceutical industries. However, the users can be involved in negotiation processes with these techniques, not receiving them passively and fighting back the biomedical control. That is the case of surrogacy motherhood. Some groups have proposed the

legalization of surrogacy in Spain, and for that reason, feminist groups are involved in the debate: the possible legislative changes affect both the individual and the collective level. The feminist movement is divided between those who advocate the right of women to decide to gestate for others, and those who believe that legalizing this practice means the commercialization of the body and the lives of women. This chapter presents subrogation in the context of reproductive technologies and associated participatory processes. Through the methodology of *delphi forums* and semi-structured interviews, the feminist discourses on subrogation, motherhood and public participation are studied.

Is it possible to be seen as a parent while being trans*? Transgender parents in Spain by R. Lucas Platero analyses the situation and experiences of transgender parents in Spain, an issue that is slowly becoming visible and tackled by the public policies. Through a research project based on interviews, Platero focuses on the protagonists of this reality (transgender parents, partners and children) and in their diverse and intersectional experiences. On the one hand, their needs (related to the transition process but also to transphobic discrimination and stigma) are not sufficiently understood and covered by family state institutions. But on the other, family members also develop resistance strategies and positive skills that often remain unknown and undervalued.

In *Ajoblanco* **magazine (1974-1980): scientific knowledge as a resistance through anarchism, environmentalism and feminism**, Ana Macaya (CEHIC-UAB) studies the epistemological implications of the libertarian anti-cultural *Ajoblanco* magazine. This case study focuses on how activism, political resistance and knowledge came together to create an inclusive and revolutionary epistemic object just at the beginning of the so-called 'Spanish Transition to Democracy' process. The author analyzes the epistemological effects of the articulation of some sectors of feminism and environmentalism, but also of the libertarian, counter-cultural and gay liberation movements. Thus, this chapter shows how the magazine offered the possibility of reaffirming non-normative sexualities or fluid genders, defending self-management of health and questioning the production of scientific, medical and technological knowledge.

In **The shaping of intimacy in Facebook: a critical review considering gender differences**, Lola S. Almendros studies how the distortion of the public and private in social networks implies changes in the conception and experience of privacy. She shows how this involves the promotion of certain behaviors that shape new forms of interaction and (inter)subjectivity where gender differences are relevant. Thus, she focuses on some empirical sociological studies to describe the socio-political

consequences associated with these changes in the meaning and practices of intimacy.

Eulalia Piñero Gil, **Unstable female bodies: re-presentations of gender violence in the globalized culture** aims at the study and analysis of gender-based violence on the female body from the cultural and the pharmaco-technological perspectives**.** In author's view, cultural products re-present, once they have been translated into our globalized society, a pervasive transcultural influence that needs to be analyzed in order to determine the implications derived from the transcultural dialogue. The female body is today an unstable production, an oxymoronic symbol, a blending of fascination and horror that shows in different ways the destructive crisis and its effects on the economic system. In this sense, the pharmaceutical industry contributes effectively to the normalizing, disciplining and punishing of the female body to fulfill the aesthetic canon. In the same way, the performative arts are capable of reflecting on this terrible social phenomenon and at the same time they might generate a social awareness that contributes to the eradication of this violent behavior. But, paradoxically, they might also represent and reinforce a permanent desire and longing for a "perfect body." Today's globalized culture re-presents products of different geographical contexts that are translated, adapted and even modified to adjust to the receiving cultural context. In this sense, our society shows an increasing eagerness to consume cultural products such as magazines, books, films and videos that are produced and elaborated in the English-speaking world. The author aims to explore and find the ideological background these cultural manifestations show, how they are interpreted by our culture and how they reproduce the "perfect female body" that is commodified as an object to be used, consumed, abused and eventually become the target of violence.

As we have already mentioned, these texts are the result of the work that was presented in abbreviated form at the *XII International Workshop on Science, Technology and Gender: Knowledges, Practices and Activisms from the Feminist Epistemologies*. Throughout the years that we have held these workshops many feminists have accompanied us: Evelyn Fox Keller (MIT), Verena Stolcke (UAB), Charis Thompson (U. California Berkeley), Alison Jaggar (U. Colorado), Helen Longino (Stanford University), Annemarie Mol (U. Amsterdam), Jenny Kitzinger (Cardiff University, Wales), Olga Bustos (UNAM), Diana Maffía (UBA), Valerie Miner (Stanford University), Linda Birke (Institute for Women's Studies at the University of Lancaster), Michael Penkler (U. de Viena), Sandra Eder (U. Zurich), Andrea Bielli (U. de la República), Geertje Mak (U. Radboud), Thomas W. Laqueur (U.

California Berkeley), or Anne Fausto-Sterling (Brown University), to cite a few from outside Spain. All of them and many more have participated in these workshops, have accompanied us in our research and have helped us to answer our questions to solve our doubts and to raise others.

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List of Acronyms

Acronyms	Meaning
AFMA	Association of Single Parent Families of Asturias
AID	Artificial Insemination with Donor
AIDS	Acquired Immune Deficiency Syndrome
ARTs	Assisted Reproductive Technologies
Asproin	National Association for Fertility Issues
CNT	Work National Confederation
DI	Donor insemination
ETA	Euskadi ta Askatasuna (Basque Country and Freedom)
FAGC	Catalan Gay Liberation Front Movement
FAHR	Homosexual Front for Revolutionary Action
FECYT	Spanish Foundation for Science and Technology
FINNRET	Feminist International Network on the New Reproductive Technologies
FINRRAGE	Feminist International Network of Resistance to Reproductive and Genetic Engineering
HIV	Human Immunodeficiency Virus
ICTs	Information and Communication Technologies
IVF	In Vitro Fertilization
LGBTQI community	Lesbian, gay, bisexual, transgender, queer and intersexual community
MINECO	Ministery of Economy and Business
MRI	Magnetic Resonance Imaging
MSPE	Single Mothers by Choice
NRTs	New reproductive techniques
OEI	Organization of Ibero-American States
PET	Positron Emission Tomography
PFA	Asturian Feminist Movement
PGD	Preimplantation Genetic Diagnosis
RICYT	International Network for Indicators of Science and Technology in Iberoamerica

S&T	Science and technology
SNS	Social network sites
SPECT	Emission Computer Tomography
STS	Science, Technology and Society
TARA	Alternative Renewable Self-Managed Technologies
UN	United Nations
WHO	World Heatlh Organization
XEGA	Asturian Gay People

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