

A Feminist Epistemology of Science

DELFO C. CANCERAN, OP

*I think therefore she is.*¹

– Rosi Braidotti

The paradigm shift in science proclaimed by T. Kuhn has a tremendous impact on the epistemology of science which foregrounds the place of the subject (scientist) in the production of scientific knowledge. Traditionally, the subject is assumed in the production of knowledge and concealed from theoretical inquiry as though he (I am intentionally using the masculine pronoun) is immune from any epistemological criticism. The subject is assumed because he is present but unquestioned. Moreover, the subject is concealed because he is present but invisible. In traditional epistemology, the place of the subject is a taken-for-granted presence. Ironically, this taken-for-grantedness bestows him a special privilege that elevates his view from nowhere like a God who stands beyond and oversees the world. Historically, the subject is epistemologically tacit and shadowy in knowledge production. This invisibility of the subject has been interrogated by feminists that eventually led to the paradigm shift in epistemology which has openly criticized this divine privilege of the masculine subject by embodying and locating him in time and space to curb his cannibalistic knowledge. Thus, in feminist epistemology, women have returned his gaze to himself not by re-centering him, but by de-centering him.

¹ Rosi Braidotti, *Patterns of Dissonance: A Study of Women in Contemporary Philosophy*, trans. Elizabeth Guild (Cambridge: Polity Press, 1991) 209.

Escape from Subjectivity

In an essay, "The Cartesian Masculinization of Thought," S. Bordo analyzes the ideological construction of the veiled masculinity of modern (western) subject. To back up her analysis, she employs a psychoanalytic framework in revealing its behavior which underlies the masculine subject. Taking its clue from a Freudian analysis of the *fort-da* (gone-[t]here) game, she proposes that, like the game played by the boy, the masculine subject manifests a psychological syndrome known as 'reaction-formation' that motivates the psychic functioning or working of the masculine subject. The modern subject symptomatically manifests a syndrome of 'separation anxiety' through an unconscious 'flight from the feminine.'² The feminine is symbolically represented by the body, which has been historically identified with the erratic body of woman and contrasted it with the rational mind of man. From a psychoanalytic framework, the conflict of separation anxiety and flight from the feminine is based on psychic formation of the masculine subject. Due to his ambition for autonomy, the masculine subject disavowed his dependence from the mother who in his infancy supplied his basic needs for food through sucking her breast. However, since the mother has left an enduring legacy of unmatched satisfaction, the masculine subject longs for the return to this lost paradise so that he can relive that primal bliss that could fill the lack of his being. In the psychic world of the masculine subject, there remains an anxious conflict between 'separation' from the mother and 'reunion' with her. In this respect, the masculine subject exhibits "a defiant gesture of independence from the female cosmos, a gesture which is at the same time compensation for a profound loss."³ Thus, the masculine subject fundamentally undergoes contradictory desires of separation and unity that is hollowed in his being. Autonomy is a fantasy of an individual man.

In the same manner, this psychological conflict is exemplified in the behavior of the Cartesian ego, which does not only split the

² Susan Bordo, "The Cartesian Masculinization of Thought," in *From Modernism to Postmodernism: An Anthology*, ed. Lawrence Cahoone (Cambridge & Oxford: Blackwell Publishers, 1996) 641.

³ *Ibid.*, 647.

mind (*res cogitans*) and the body (*res extensa*), but, more so, pits one against the other. In his work on *Meditation*, Descartes has mulled over his struggle in severing himself from the legacy of his childhood experience which continues to shape his adult life that deranges his philosophical meditation. In his personal reflection, childhood is a significant period of inevitable socialization where he unconsciously learns the basic knowledge derived from his environment which carries a lasting impact on his succeeding years. For him, the effect of his environment on his life has profoundly molds his perception and unfortunately shapes his subjectivity that vitiates the purity of his *cogito*. In a sense, his subjectivity is marked by the trace of his childhood socialization that contaminates his *cogito*. This contamination becomes a source of bias or prejudice to knowledge of the world. In order to expunge this bias, Descartes has to repudiate his past by subjecting his *cogito* to a deliberate process of rigorous purification known as his 'methodic doubt' which screens the *cogito* from any possible contamination. Cleansed from this contamination, Descartes can achieve the certainty of his *cogito*: *Cogito ergo sum*. This *cogito ergo sum* sums up the desire of the sovereign ego as a self-originating and self-authenticating source of objective knowledge that assures a 'pure and distinct idea' borne out from his impartial mind.

Historically, this marked subjectivity is symbolized by the devalued feminine body whose desires are carnal and chaotic. In a binary worldview of culture and nature, the two sexes have been differentially classified according to a binary categorization where man is assigned to culture, while woman is consigned to nature. This dominant classificatory system of the sexes has installed man as superior over and above woman since he alone is endowed with an unbiased reason while woman is devalued into an unruly passion. The woman has been caricatured into a seductive whore whose lure only disturbs reason that upsets the contemplative life of the rational ego. In effect, "a new 'masculine' theory of knowledge is delivered, in which detachment from nature acquires a positive epistemological value."⁴

⁴ Susan Bordo, "The Cartesian Masculinization of Thought," 649.

Moreover, the Cartesian legacy of dualism has continued to prevail in our scientific worldview. This scientific worldview or, better, this knowledge derived from scientific method, is objective since it follows the strictures of stringent observation and rigorous computation. The objectivity of knowledge is derived from the correspondence and identity between mind and reality. The specular power of the mind reflects reality out there in the world. In this sense, objectivity is not just something about the external reality, but rather the external reality that the mind reflects. This fidelity of the mind in mirroring reality can be verified through replication in experimentation.

Regime of Objectivity

Expunging one's subjectivity from contamination is a necessary condition for attaining an objective knowledge of reality. To achieve objectivity, the cogito should set up a clearly delineated boundary which sets off the self from the world. The self, which is the site of the cogito, captures or grasps the essence of reality through the power of abstraction by halting the variability of the world and pinning it down. When the boundary is transgressed, the cogito enters into ambivalence of the mind that can compromise the objectivity of knowledge. In objectivity, the mind plays the role of a mirror that only reflects reality through the specular power of the cogito. To maintain this objectivity, one should safeguard the boundary that separates the self from the world so that the self can blot out the influence of the (biasing) subjectivity that blurs the mirror in the acquisition of the knowledge of the world. The cogito should screen the perception of the world that enters into the mind. Purged from its marked subjectivity, the cogito retains its objectivity by safeguarding this sacrosanct boundary. The self-defined by its cogito can extract the essence of reality because it only reflects true knowledge. In this sense, the cogito is the sole guarantor of a valid claim to knowledge because it is equipped with the mirroring power for self-reflection that objectifies itself.⁵ In this sense, the world cannot be a valid source of knowledge claims because of its fleeting

⁵ Susan J. Hekman, *Gender and Knowledge: Elements of Postmodern Feminism*, (Cambridge: Polity Press, 1990) 62.

and distrusted nature. Thus, in order to have a valid claim, the world is subjected to the apprehending gaze of the cogito that freezes the world into rest by grasping or capturing its essence so that it can stabilize this fleeting world by fixing its unchanging essence.

The binary opposition between the subjectivity of the subject tainted by bias and the objectivity of knowledge of the world as reflected in the mind is maintained in order to guarantee the speculation of the cogito. The objectivity of the mind lies on the mirroring power of the cogito in re-presenting the unchanging essence of the world. This opposition should be understood within the over-all context of Cartesian splitting of the self into its *res cogitans* and *res extensa*. Such splitting is a precondition for the attainment of objectivity of knowledge. In this view, the body recedes from cognitive power that is properly assigned to the mind. The body is the source of biasing contamination that vitiates the purity of the mirroring mind. In modernity, the project of enlightenment highlights the power of the mind in the attainment of truth. The mind is the site of objectivity of knowledge that arbitrates the truth. The Cartesian ego should negate its subjectivity by repudiating the historical traces that pollute the cogito. The ego can only attain objectivity by purging or cleansing the biasing influence of subjectivity from the cogito. It is then ultimately defined by its pure cogito that represents or reflects reality as such. This speculative power authorizes the ego to be the 'spokesman' of the reality revealed to him.

Split into a binary opposition, the Cartesian ego justifies the asymmetrical relationship between the objective and the subjective knowledge. This opposition is maintained in order to isolate the impurity of the subjectivity that can intrude into the immaculate domain of objective truth. Following this worldview, the status of scientific knowledge is guaranteed to reflect objective reality based on a positivistic conception of truth that is insulated from subjectivity. In the history of scientific knowledge, objectivity has always been equated and identified with value-free or value-neutral knowledge of reality. This disinterested status of scientific knowledge excludes any personal value which is reckoned to be subjective, that should never enter into the objectivity of mind in reflecting reality. When personal value encroaches into knowledge,

the objectivity of science is compromised. Thus, the Cartesian split does not only account for the separation of these two domains (objectivity and subjectivity), but also maintains the hierarchical order that encloses them. These two domains are irreconcilable and incompatible. In effect, objective knowledge surpasses subjective knowledge. The preference to and the elevation of the objective truth has denigrated and discredited the contribution of subjectivity in knowledge production.

Science becomes the exemplary model of intellectual discourse because it is privileged to access and represent reality and, due to that privilege, the scientist, by extension, is the ventriloquist of reality since he arbitrates the truth. The scientist is a Cartesian *ego par excellence*. He is detached from his subjectivity so that he can attain the objective knowledge of reality. The laboratory is an ideal place for scientific objectivity. In the laboratory, he controls the experiment and manipulates the variables through empirical observation and mathematical computation that could guarantee the veracity of the outcome of the experiment. The experiment demonstrates the objective production of knowledge. Through observation, the scientist penetrates into the laws of nature and reflects valid knowledge of the world.⁶ The scientific mind is trained to follow the rigors and structures of scientific method which begins in observation of the world. Through observation, the scientist testifies to the world and mirrors reality as such. In his testimony, the scientist purges the traces of his subjectivity which can prejudge the world and therefore invalidates scientific objectivity. The mind of the scientist only reflects or mirrors reality. The world is muted as a precondition of his objectivity that authorizes him to be its ventriloquist. Through his observation, the scientist speaks on behalf of the world and produces the truth of the world. The speech of the scientist provides a legitimacy of a valid scientific objectivity.

Interrogation of Objectivity

Feminist scientists who have been trained in the so-called science-as-usual within the prevailing malestream scientific method

⁶ Lynette Hunter, *Critiques of Knowing: Situated Textualities in Science, Computing and the Arts* (London & New York: Routledge, 1999) 131.

have grappled with the problem of the taken-for-granted masculine privilege which only marginalizes or even excludes women's experience in the production of scientific knowledge. Due to prevalence of this science-as-usual practice, the paradigm shift pushed by feminists has been protracted because the malestream science is already well-established in the scientific community. This tradition blocks the significant transformation of the malestream knowledge that has been installed as the regime of truth in the scientific community. The persistent struggles of feminists in science have eventually inaugurated a new way of knowledge production that takes into account women's experience of reality. Historically, the field of science has been the domain of men and therefore the advent of women in science has only been accommodated within the malestream science. Feminists have respected the master's house in order to be counted as members of a respected tradition in the scientific community. Moved by their resolve to transform science, feminists have struggled in bringing about a paradigm shift in science by launching their criticism on the seemingly unassailable objective knowledge that only privileges the perspective of men at the expense of the experience of women. In scientific epistemology, two feminists have been prominent in the transformation of scientific knowledge, namely, Sandra Harding, a philosopher, and Donna Haraway, a biologist. They have proposed an epistemological restructuring of scientific objectivity of knowledge which injects feminist theories.

1. Sandra Harding's Standpoint Epistemology

Looking back at the history of scientific knowledge, especially on the havocs it wrought to the world by the so-called advancement of science and technology, S. Harding has questioned the promise of quality life that science has offered for the amelioration of human condition. The Second World War experience, where science and technology colluded, has testified to the untold destruction of lives and devastation of properties unparalleled in history. These sufferings have led people to cast doubt on science and to be wary of its impact on the well-being of humanity. The war has only showed the self-interest of politicians and scientists that questions the self-serving the will to power. The alleged objectivity of scientific knowledge that severs the link between

knowledge and power has revealed this will to power. The mirror image of the objectivity of scientific knowledge has been shattered, so to speak, which exposes its vile intent. Beginning in the 1960's, feminists have started to openly criticize this alleged scientific objectivity and divulged this deception. After all, this objectivity is only a half of the story, which unfairly encompasses the whole picture of reality. The master plot on scientific objectivity is a pretension of the reigning meta-narrative of men. This master plot of men conceals, rather than reveals, the role of the scientist as a producer of scientific knowledge. Thus, to counter this meta-narrative, the place of the scientist has been interrogated, not just his knowledge claim. As it is exposed, the scientist cannot arrogate a view from nowhere. He should assume a cultural location that shows the context that limits his knowledge production. This cultural location of the scientist renders him visible to the sight of women. In this case, the scientist becomes visible: he is a westerner (white, professional and male). Thus, feminists highlight the cultural location of the 'subject' in the production of knowledge on reality.⁷

According to standpoint epistemology, there is a distinctive perspective of people on reality. If there are different perspectives of people, it follows that there are different interpretations on reality. In such a case, there can be no one mind that reflects one reality. The one mind reflecting one reality is based on a metaphysical assumption that there is only one being that is singularly known by people whose mind faithfully mirrors it. In this view, reality and truth are equated or identified. If there is no single mind for a single reality, it also follows that reality is multifaceted

⁷ Western scholars have painted a superior civilization of Europe that denigrated the achievements of other civilizations. Moreover, postcolonial scholars have through historical research discovered the existence of different civilizations, even more ancient and complex than what Europeans have been made to believe. Europe cannot arrogate civilization upon itself because history has shown the achievements of other non-European civilizations too, such as China, India, Egypt and Arabia. Moreover, People have discovered peculiar differences of peoples in the globe in terms of race, ethnicity, language, culture, religion, lifestyle and the like. These differences of people cannot be expunged from their particular identities which provide them their distinctiveness. The differences of people are irreducible.

and ambivalent.⁸ Reality is not something self-evident in the mind or self-explanatory to people. Since there are different standpoints of people in relation to reality, there will be different angles of that reality. In that case, there will be no single reality reflected in the mind. In short, knowledge of reality is only perspectival. Reality is like a prism that discloses various dimensions to viewers. Moreover, this standpoint is linked with the cultural location of people. Reality has to be interpreted by the mind whose perspective of reality is located and situated. If this is the case, our knowledge of reality is fragmentary because it hinges on our standpoint. We cannot detach ourselves from that standpoint and assume a universal position simply because we stand in a particular place and context.

Moreover, this cultural location is never neutral; it is invested with power relations that exist among players. In this arrangement, power is asymmetrically distributed. Like the Marxist notion of the class location of the bourgeois and the proletariat, the relationship is marked by inequality where the bourgeois dominates or oppresses the proletariat. Conflicting in their interest, their relationship is characterized by struggles where the proletariat contests for equality. For the Marxists, "the perspective of the proletariat is distinctive because it emerges from their practical activities."⁹ Moreover, since it is marginalized and excluded from the capitalist system, the proletariat endeavors for the subversion of the capitalist system for the attainment of a utopia of classless society where alienation and oppression will eventually be wiped out. From a Marxist theory, the perspective of the proletariat is epistemologically privileged because it includes a whole knowledge of reality since the proletariat is both an object of the capitalist system of domination and a subject of the historical struggle for equality. Since history is replete with struggles of the victims of marginalization and exclusion, standpoint epistemology relies on the critical reading of the history of science, which is a constant struggle for recognition.

⁸ See Kathyryne Pyne Addelson, "The Man of Professional Wisdom," in *Discovering Reality* 161, eds. Sandra Harding & Merrill B. Hintikka (Dordrecht, Holland: D. Reidel Publishing Company, 1983) 170.

⁹ Alessandra Tanesini, *An Introduction to Feminist Epistemologies* (Oxford: Blackwell Publishers, 1999) 139.

To realize this shift, standpoint epistemology foregrounds: 1) cultural locations, and 2) power relations. Cultural locations are defined by various cultural specificities and characteristics of people that mark their peculiar identities such as the network of race, class, age and sex/gender classifications that characterize people. These identity-conferring factors do not merely describe people, but more importantly, provide a standpoint of people. The categorization of a people affects their identity. In the scheme of bipolar opposition of the white/black (race), rich/poor (class) and male/female (sex/gender), the first in each pair is privileged over and above the second. This privilege is consequential in the knowledge production of people. For instance, we may inquire: Why is it that scientific knowledge has flourished in western societies and not in third world societies? To be more specific: Why is it that the local bodies of knowledge of indigenous people did not count as scientific knowledge? From the perspective of standpoint epistemology, the answer lies on the politics of the production of scientific knowledge. The scientific community wields power in terms of their decision that involves some inclusion or exclusion of knowledge. The scientificity of knowledge is linked with power relations in its global scale. Scientific knowledge is anchored on a political judgment by the more powerful players that determine the rules of the games and the fate of the less powerful players in the arena of science. The criteria of knowledge impose a normative standard of science: what counts as knowledge and what does not count as knowledge.

Moreover, the clout of scientific objectivity hides the cultural location of the scientist so that s/he can claim an authoritative knowledge of reality. Since s/he is detached from any cultural location, the scientist is freed from any cultural limit on the production of knowledge. Unfettered by cultural location, the scientist can assume a universal knowledge of reality. Moreover, standpoint epistemology does not divorce nature from culture. Our knowledge of the natural world is culturally embedded.¹⁰ In this sense, nature and culture are interwoven. People are socialized in their particular culture where they acquire the basic knowledge

¹⁰ Sandra Harding, "Ways of Knowing and the Epistemological Crisis of the West," in *Knowledge, Difference, and Power*, eds. Nancy Goldberger, Jill Tarule, Blythe Clinchy & Mary Belenky (New York: Basic Books, 1996) 438.

of reality. When they perceive the world, they are mediated by their culture that filters into their knowledge that is accumulated into their collective representation of reality. Culture is an internalized background knowledge of the world that mediates their relationship with nature. Such mediation of culture affects our peculiar view of nature. In this case, knowledge is locally located context as opposed to the assumed universally validated claim. Viewed in this way, science is, in fact, an ethno-science. As far as the impact of cultural location is concerned, people show some heterogeneous patterns, different interests, discursive resources and diverse organizations manifested in their local knowledge production.¹¹

Moreover, the universalization of western science is traceable from its colonial history. In this colonial history, we can draw the link between colonialism and science which shows that the European expansion in the new world has given rise to the development of modern science. From the beginning of the European expansion, colonialism and science is marked by a codependency.¹² In this period of expansion, scientific knowledge developed by means of testing scientific hypotheses that reflect the self-interests of Europe to their colonies (such as the African continent). Through hypothesis testing, Europe has perfected its scientific endeavors such as in the fields of navigation, oceanography, meteorology, mineralogy, agriculture, medicine, cartography and the like. Due to its power privilege over the colonized world, western science has achieved an incomparable perfection. Consequently, western science has been imposed on the non-western colonies and territories as a standard mode of development. Due to its influence, western science has been transported to these colonies and territories, and integrated and adopted within their development programs that only fostered a worsening dependency and underdevelopment that has impoverished third world societies.¹³

¹¹ Ibid., 438.

¹² Ibid., 440.

¹³ Sandra Harding, "Multicultural and Global Feminist Philosophies of Science: Resources and Challenges," in *Feminism, Science and the Philosophy of Science*, eds. Lynn Hankinson Nelson & Jack Nelson (Dordrecht, Boston & London: Kluwer Academic Publishers, 1996) 278.

Furthermore, the imposition of western science evidently shows the subjugation and marginalization of non-western knowledge.¹⁴ Local knowledge of the colonized people did not prosper, not because they were incapable of scientific knowledge, nor because they were inferior to the European race, but because they were victimized by the onslaughts of colonization and excluded from the production of scientific knowledge. Their local knowledge was disqualified and invalidated as scientific knowledge. The inferiorization of local knowledge by the expertise of western knowledge manifests a deep-seated racist and colonialist worldview of the west.¹⁵ In many respects, the non-western bodies of knowledge "were more advanced than European sciences until the seventeenth century and, in some cases, until well into the nineteenth century."¹⁶ Due to unequal power relations, the European scientific knowledge is imposed as the yardstick for valid knowledge against which other knowledges are gauged. Truth becomes a prerogative of European science as a standard knowledge. The tyranny of the west dominates science that closes down discussions and ends up dialogues through an invocation of authoritarian standards which preclude the possibility of a democratic space of dissent and critique for the continuing search for alternative knowledge.¹⁷ Thus, we have seen that the question of inclusion and exclusion of knowledge is a political decision and a historical struggle for equal recognition.

Due to this historical assault, standpoint epistemology consciously takes up the position of the colonized people.¹⁸ Although the colonized people were subjected to domination and oppression,

¹⁴ Sandra Harding, "Ways of Knowing and the Epistemological Crisis of the West," 445.

¹⁵ Sandra Harding, *Whose Science, Whose Knowledge?: Thinking from Women's Lives* (Buckingham: Open University Press, 1991) 222-3.

¹⁶ Sandra Harding, "Multicultural and Global Feminist Philosophies of Science: Resources and Challenges," 266.

¹⁷ Sandra Harding, "Recovering Epistemological Resources," in *Is Science Multi-cultural?: Postcolonialisms, Feminisms, and Epistemologies* (Bloomington & Indianapolis: Indiana University Press, 1998) 145.

¹⁸ Sandra Harding, "Ways of Knowing," 444.

they have wielded power in defying their brazen colonial masters. In power relations, power is conceived as a two way movement where the dominant power cannot monopolize power, but rather power is scattered among the players in the field. In effect, the dominated people can, to some extent, still exert forms of resistance against acts of subjugation and control of the colonial masters in their struggle for liberation. The subjugated people have imbibed their local knowledge which retains its potent force in their culture of resistance. However, this local knowledge is historically buried and untapped because it is disqualified and discredited by the well-entrenched western knowledge. Science is dominantly a lopsided production of western knowledge. Taking the position of the subjugated people as a conscious option provides a more accurate and comprehensive account of knowledge of the world because it includes the non-western knowledge of the colonized people which the dominant science has denigrated or devalued. Because it has been marginalized and excluded in science, standpoint epistemology has privileged the subjugated knowledge of the colonized people in the transformation of science. Viewed from the Marxist perspective of the privileged position of the proletariat, the inclusion of the subjugated knowledge by standpoint epistemology maximizes objectivity of knowledge. The expansion of the space of knowledge in science includes the perspectives of the subjugated knowledge of the colonized people in which the dominant framework has merely relegated into the margin of insignificance. The subjugated knowledge can provide resources that can contribute to the objectivity of scientific knowledge. Thus, the privilege accorded to the subjugated knowledge can help in the expansion of the horizon in science.

In her standpoint epistemology, S. Harding openly rejects 'objectivism,' and constructively reconceptualizes 'objectivity.' Unlike objectivism, objectivity does not limit itself to the 'outside,' that is, the external world of object, but rather links object with the subject in a dialectical fashion. In this dialectical relationship, standpoint epistemology strengthens the notion of objectivity (what she calls 'strong objectivity') by inclusion of the subjugated knowledge of others (such as women and colonies). Thus, strong objectivity does not expunge the subjective element from scientific knowledge, but examines the role of the social locations or

positions of the scientists in knowledge production. "Since the social locations occupied by scientists are crucial to the values they may endorse, strong objectivity involves a call for scientifically examining the social location of scientific claims. In other words, objectivity is maximized when we scrutinize those background values which influence the formulation of a given theory, rather than pretend that they play no role."¹⁹ In effect, a standpoint epistemology requires the reinforcement of the standards required by the criteria of objectivity of knowledge that acknowledges the social character of knowledge claims and requires a critical evaluation of social context of knowledge claims.²⁰

2. *Donna Haraway's Situated Knowledges*

In her writings, D. Haraway has launched a critique of what she caricatured as 'modest witness' of science, which is dominantly influenced by positivism. In the history of science, the modest witness is a leading character of scientific revolution. As we shall see, the modesty of this witness is ideologically loaded because it deceives people of its false humility and hides its pernicious intent to others. In positivism, knowledge is discovered in the world through the power of observation and experimentation. Through his gaze, the scientist bares open the world and grasps the laws of nature hidden beneath the surface. In this knowledge production, the scientist embodies the modern witness who is self-invisible. He sees the world without being seen. Its self-invisibility privileges him because he occupies a universal position. This privileged position enables the scientist to be the legitimate and authoritative ventriloquist of the natural world. He merely bears witness to the world. Moreover, his testimony is objective because he only mirrors or represents reality as such. His subjectivity is hidden or expunged from view in order to show and warrant his alleged possession of objectivity. Like S. Harding, D. Haraway has unmasked this self-invisibility of the modest witness. In her view, science has been monopolized by men. The scientist belongs to a bourgeois class who is a masculine individual and a

¹⁹ Alessandra Tanesini, *An Introduction to Feminist Epistemologies*, 175.

²⁰ Sandra Harding, *Whose Science, Whose Knowledge?*, 142.

key player in a capitalist system which endeavors a maximal profit pushed by the west. The unmasking of the face of the modest witness reveals the heavy Eurocentrism and androcentrism of the west. This witness is, in fact, "the specifically modern, professional, European, masculine, scientific form of the virtue of modesty."²¹ However, the garb of modesty hides an imperialistic and tyrannical persona.

In situated knowledges, D. Haraway argues that a feminist notion of objectivity should be built on a new metaphor of 'prosthetic devises.' These prosthetic devices show us that our organic eyes are active perceptual systems building on translations and specifying visualizations of the world as a cultural invention.²² Thus, the eyes cannot be innocent but are always colored. Our ways of seeing the world implicate our culture that involves the entire gamut of 'semiotic technologies' in meaning-making and an ideologically-loaded accounting of the 'real' world. In short, the real world is interwoven with semiotic creation. These specific ways of seeing imply compound/ed perspectives on reality. "It makes it possible for us to see how the world looks to the compound eyes of an insect, or to the camera eye of the satellite in space, or even to the eye of a microscope."²³ Through this visual metaphor, D. Haraway shifts her focus from the optics of reflection to the tropes of diffraction that modifies reality. "Diffraction patterns record the passage of difference, interaction, and interference."²⁴ This knowledge is not concerned with the reduplication or reproduction of images typical of representation or reflexivity in positivistic epistemology. In representation or reflexivity, difference is ultimately dissolved because the gaze of the conquering mind of the scientist swallows up or blots out the difference turning or making

²¹ Donna Haraway, "Modest Witness: Feminist Diffractions in Science Studies," in *The Disunity of Science: Writing Science, Boundaries, Contexts and Power*, Peter Gauson & David J. Stump, eds. (Stanford, California: Stanford University Press, 1996) 429.

²² Donna Haraway, "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective," in *Feminism and Science*, eds. Evelyn Fox Keller & Helen E. Longino (Oxford: Oxford University Press, 1996) 254.

²³ Alessandria Tenesini, *An Introduction to Feminist Epistemologies*, 161.

²⁴ Donna Haraway, "Modest Witness," 429-30.

it into the 'same.' This gaze embodies the Hegelian sublimation that eats up the difference of the other and reduces it into identity. Her alternative figure of diffraction, which is "the production of different patters, should be a more useful metaphor for needed work than reflexivity."²⁵

In this understanding, situated knowledges capitalize on the embodiment of vision that implies a twofold signification, namely: 1) multidimensionality of reality, and 2) the intertwinement of fact and fiction in knowledge production. D. Haraway's alternative to the modest witness is what she calls 'situated knowledges' where vision is embodied in person and embedded in context. Unlike the modest witness, situated knowledges reclaim the location or position of visual perception which underlies our production of knowledge of the world. Traditionally, the body has been only marginalized and even excluded from the production of knowledge. For instance, biology conceives of the body as a given thing without any history, not as a process of social construction that people produce in discursive formation.²⁶ In a Cartesian worldview, the body is an unreliable source of knowledge because it is contingent and evanescent compared to the stability and durability of the mind. Moreover, in a Newtonian science, the body is viewed in a mechanistic manner that is manipulated by an external agent for inputs. In a mechanistic view, the body moves mechanically according to a determined law of causality that governs it.²⁷ Thus, the body is likened to a machine like a clock whose working or functioning is determined in advance.

In situated knowledges, knowledge incorporates the experience of the body which is no longer poses a disqualifying and polluting bias, but provides a position which locates or situates the subject. This location particularizes the context of the subject in history and articulates a network of relations in the world.²⁸ In

²⁵ Ibid., 436.

²⁶ Donna Haraway, "Contested Bodies," in *Gender and Experience*, ed. Maureen McNeil (London: Free Association Books, 1987) 63.

²⁷ Rosemary Radford Ruether, *Gaia and God: An Ecofeminist Theology of Earth Healing* (New York: Harper San Francisco, 1992) 196.

²⁸ Donna Haraway, "Situated Knowledges," 249.

this sense, the body provides both a location and an articulation which privilege partial perspectives of reality grounded on the situation of the subject. In effect, location limits knowledge of the world. Moreover, situated knowledges provide an articulation of the subject with others. To articulate means not only to make clear, but, more importantly, to join connections with others. Situated knowledges respect the irreducible differences of people, which enable us to learn from them and share ourselves to them. Nobody is self-sufficient or self-absorbed. In this sense, there is a communal dimension of knowledge. Situated knowledges sustain "the possibility of webs of connections called solidarity in politics and shared conversations in epistemology."²⁹

Like S. Harding's standpoint epistemology, D. Haraway's situated knowledges take up the vantagepoint of the subjugated people. In a scientific endeavor, scientists are actually located, not just geographically, but more so, epistemologically. Their location situates their mind and emotion in a particular context that influences their perspectives or inflects their framework of reality. Cognizant of location, situated knowledges take up the position of and link with the subjugated people. We have to note that the "standpoints of the subjugated are not 'innocent' positions."³⁰ Like any other knowledge claims, the standpoints of the subjugated people are ideologically interested. However, they are preferred because in principle they clearly show an undeniable fact of marginalization and exclusion of people, which provides a resource and viewpoint for critical appraisal of knowledge.³¹ Moreover, situated knowledges participate in the struggles of the subjugated people for their liberation. Unlike disembodied knowledge, which is allegedly disinterested and detached, situated knowledges are responsible or accountable to others. Responsibility is the ability to account for knowledge. Thus, situated knowledges call for fidelity in the service of the well-being of the people. This responsibility urges scientists to be liable to the possible consequences of knowledge, especially its pernicious effects on the welfare of people.

²⁹ Ibid., 255-6.

³⁰ Ibid., 255.

³¹ Ibid.

Furthermore, embodied vision is multidimensional. Vision does not mirror reality, but produces a compound/ed view of reality where both fact and fiction are interwoven. In a modernist discourse, facts and fictions are separated and opposed so that it can attain a pure knowledge of reality. However, our vision is replete with imaginative construction which implicates fact and fiction, both of which are intricately or seamlessly intertwined in the production of scientific knowledge. Scientists construct scientific narratives which interlace fiction and fact. These narratives portray human activities that narrate the events in the field or in the laboratory. Narratives of scientists do not have a privileged status. They do not have a direct access to reality. They are rather mediated by the language of the narrators who happen to be scientists. Like any other narratives, stories are complex productions with the interaction of many tellers and hearers in the scene. "Scientific practice is above all a story-telling practice in the sense of historically specific practices of interpretation and testimony."³² The account of a scientist is likened to ethnographic data of an anthropologist, which is subject to textual analysis and criticism. "Fundamentally, from the perspective of the laboratory life, scientific practice is literary practice, writing, based on jockeying for the power to stabilize definitions and standards for claiming something to be the case."³³

Epistemology of the Gendered/Sexed Subject

As we have argued, traditional epistemology has taken for granted the question of the subject as a producer of knowledge. If ever the subject is considered, he is portrayed as a mirror of reality. The mirror reflects reality. In effect, the mind is objective. The objectivity of knowledge is anchored on a pure consciousness of the subject that mirrors reality. Thus, purity and objectivity are inseparably linked. In this purity, the subject occupies an immaculate position which effaces the gender or sex of the subject. To hide its mark, the subject is made invisible. Part of this invi-

³² Donna Haraway, *Primate Visions: Gender, Race, and Nature in the World of Modern Science* (London: Routledge, 1989) 4.

³³ Donna Haraway, *Primate Visions*, 6.

sibility is the sex or gender of the subject. In this sense, knowledge is genderless or sexless production. Thus, the gendered or sexed body is excluded from knowledge production. Feminists have brought into the fore the question of the gender or sex of the subject in knowledge production that questions not only the subjectless status of epistemology, but also the genderless/sexless knowledge of reality. For feminists, the subject is a gendered/sexed body. Thus, gendered/sexed experience of the subject contributes to knowledge production of reality.

1. *Sandra Harding's Cultural Location of the Subject*

Gender is not only a pre-given biological reality, but also a social construct of society. When a child is born, she is immediately assigned to the gender divide – boy or girl. The gender divide is hierarchically arranged in a society. In a patriarchal society, the male sex is more privileged compared to the female sex. Thus, the child enters into structural and symbolic relations. These relations assign gender stereotypes and social roles that socialize man and woman in the society. The gender divide unequally positions them. "So individuals become gendered through the positions that they are assigned in culturally carrying gendered structural and symbolic system."³⁴ Gendered identities are continually created and maintained by these relations. Thus, changes in the structural and symbolic relations can lead to the changes of gender relations. Due to these gendered relations, the two sexes are positioned differently in society which affects their standpoint in knowledge production. Since they are asymmetrically arranged, woman and man stand in different social location or position in society. In their subordinate position, women produce knowledge differently. "In so far as gender relations structure social relations, human interactions with nature, and their meanings, there will be distinctive women's standpoints on human environments that both enable and limit human knowledge about and interactions with nature."³⁵

³⁴ Sandra Harding "Ways of Knowing," 436.

³⁵ Sandra Harding, *Is Science Multi-cultural?*, 104.

The common experience of subordination of women that marginalizes and excludes their knowledge have prompted women to create a free space for them to bring out their subjugated knowledge. This space provides relief for them to express their peculiar experience that has been disqualified and disallowed in society. Listening to women's experience reveals their sufferings attached to their subordinate status. In standpoint epistemology, women's experience is significantly highlighted in knowledge production that would question the universality and objectivity of the prevailing malestream knowledge. Their experience of subordination is the starting point of any feminist knowledge.³⁶ Thus, for feminists, knowledge is derived from their peculiar experience. Compared to men, the knowledge claims of women are scientifically preferable because "they originate in, and tested against, a more complete and less distorting kind of social experience."³⁷ Since women's experience has been marginalized and excluded in the production of knowledge, feminists have taken the standpoint of women. As we have argued, the standpoint epistemology takes the social location of women. This location bestows upon its occupants an epistemological advantage and privilege. Woman's ways of knowing – sensuous, concrete, relational activities – permit women to grasp aspects of nature and society that are not susceptible to inquiries grounded in man's ways of knowing. These woman's ways of knowing have been suppressed and undermined in scientific research. Since man's ways of knowing exclude the other half of the population, feminists have reclaimed and affirmed it. In such a case, man's ways of knowing have been partial, if not perverse and false, because they are only half-truth. They systematically undermine woman's ways (e.g. it makes logical thinking as normative and excludes the everyday thinking); and subordinate woman's roles (e.g. it makes reproductive function

³⁶ Sandra Harding, *Whose Science, Whose Knowledge?*, 123.

³⁷ Sandra Harding, "Conclusion: Epistemological Questions," in *Feminism and Methodology: Social Science Issues*, ed. Sandra Harding (Bloomington & Indianapolis: Indiana University Press, 1987) 184.

and household chores as subsidiary and trivial).³⁸ Thus, there is a need to include woman's ways of knowing in the production of knowledge which can supplement science.

2. *Donna Haraway's Narrative Constitution of the Subject*

Being a primatologist, D. Haraway capitalizes on the narratives of animals constructed by scientists. Primatology is a story-telling construction. Like any literary works, primatology contains elements of a story-telling practice. The story is a rule-governed, constrained, historically variable craft of narrating the history of nature. As a craft, the story depends significantly upon styles of language and figures of speech. These stories are "historically specific practices of interpretation and testimony."³⁹ Primatology narrates the stories of animals that reflect the (unacknowledged) interests of the narrator/s. In the construction of stories, social needs often determine exactly which topics are pursued, how they are presented and, more importantly, what conclusions are reached about them.⁴⁰ Beginning in the eighteenth century, the themes of gender and sexuality have been written into the body of nature in western society.⁴¹ In the history of primatology, stories of animals abound and these stories have been repeatedly told and retold first in the inventive stories of hunters, travelers and natives; and then in the clear-sighted vision of scientists based on observation and experimentation such as anatomical dissection and physiological comparison. For instance, scientists have focused on two major themes in interpreting the significance of animals for understanding human life, namely, sex (reproduction) and economics (production). These themes correspond to the stereotyping roles of women (sex and reproduction) and men (economics

³⁸ Sandra Harding, *The Science Question in Feminism* (Milton Keynes: Open University Press, 1986) 148.

³⁹ Donna Haraway, *Primate Visions*, 1.

⁴⁰ Jane Duran, *Philosophies of Science/Feminist Theories* (Oxford & Colorado: Westview Press, 1998) 95.

⁴¹ Donna Haraway, *Primate Visions*, 4.

and production). These themes reinforce and reproduce the worldview of subordination of women and opposition of the sexes.

The economistic worldview justifies the untrammelled domination of nature for the sole purpose of profit-making in capitalist market. In fact, this worldview devastates the environment in the name of development. The ecology that supports and sustains human life on earth has been turned into a moribund state by means of industrialization and commercialization. Moreover, the binary opposition between the two sexes legitimizes the private and public divide in modern society. This private-public split assigns the sexes according to their respective roles in society. Thus, women are relegated to the private realm of the home and bedroom; while men have dominated the public life of society in politics and economics. Men have pursued their own interests in charting society that subordinates women. This worldview provides a paradigm for the theories on sex which "have been powerful in legitimating beliefs in the natural necessity of aggression, competition, and hierarchy."⁴²

In the scientific community, the social group of women enters into the scientific world already crowded with the prevalence of the patriline stories where female body has been constituted and produced by masculine discourses.⁴³ These discourses have represented the female body into visible and intelligible forms. Since these discourses come from man's standpoint, they are biased and distorted. We should note that "[d]iscourses are not only social products, they have fundamental social effects. Men and women are socially constituted and positioned in relations of hierarchy and antagonism."⁴⁴ These discourses, which come from the panopticon gaze of men, are inscribed and reinscribed into the female body which has been reduced and fixed into an object of fantasy of man. In effect, the female body has been emptied

⁴² Donna Haraway, "Animal Sociology and Natural Economy of the Body Politic, Part II: The Past is the Contested Zone," in *Feminism and Science*, Evelyn Fox Keller & Helen E. Longino, eds. (Oxford: Oxford University Press, 1996) 57.

⁴³ Donna Haraway, *Primate Visions*, 280.

⁴⁴ *Ibid.*, 290.

of its polysemy. Being mirrored in man's fantasy, the female body is cheapened into stereotypical representation that denigrates her. However, this representation is a mere projection of male fantasy. In the patriline account, humanity is made in the image and likeness of the father. This "humanity has a generic face, a universal shape. Humanity's face has been the face of man."⁴⁵

From the humanist perspective, man is a universal or generic term that applies to both sexes. In short, man subsumes woman under his category. In this arrangement, man occupies a privileged position compared to the subordinate status of woman. The universal or generic privilege of man is essentially and primarily predicated on his substance separated from his attributes. A substance is severed from his attributes and retains only its pure rationality. Rationality defines the essence of this universal or generic substance. Thus, rationality is essentially a masculine essence. The attributes attached to the substance are its secondary or accidental modifications. Since rationality is the domain of man, the production of knowledge is a masculine prerogative. The attributes are irrelevant to its production. In this sense, rationality is basically unaffected by and disconnected from these human attributes. Thus, the sex as an attribute of the subject does not enter into the picture of the production of knowledge. Rationality is unmarked by sex. Hence, the subject is essentially or basically immaculate or innocent. Feminists have untiringly questioned the conceptualization of this alleged or assumed universal or generic privilege of man and exposed the particularity or specificity of the male subject by embodying his rationality which then limits his knowledge. This embodiment has rendered man visible and marked by the multiplicity of cultural, social and political factors that particularize his experience upon which his subjectivity is constructed or constituted.⁴⁶

⁴⁵ Donna Haraway, "Ecce Homo, Ain't (ar'n't) I a Woman, and Inappropriate/d Others: The Human in a Post-Humanist Landscape," in *Feminists Theorize the Political*, Judith Butler & Joan W. Scott, eds. (New York: Routledge, 1992) 86.

⁴⁶ See Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York & London: Routledge, 1990) 14.

Conclusion

Both S. Harding and D. Haraway converge on the critique of the science-as-usual paradigm which historically privileges the place of men but subordinates the contribution of women in the production of scientific knowledge. To redress this masculine prerogative, these feminists struggle in the transformation of scientific knowledge by injecting feminist theories into the scientific discourse using the arguments of standpoint and situatedness of the subject as a deconstructive gesture in de-centering the masculine privilege in science where men normally have occupied an honored position in epistemic objectivity of knowledge. Aware of the historical subordination of women, these feminists take woman's experience as a subversive position that disrupts this masculine privilege. The epistemological option of privileging woman's experience which has been marginalized and excluded in the mainstream science-as-usual practice is theorized into a feminist knowledge that can transform the terrain of science.

However, in her standpoint epistemology, S. Harding seems to imply that by merely adding woman's experiences as subjugated knowledge in scientific knowledge, she can provide a more objective account of knowledge. This addition can then complement the partial knowledge of the science-as-usual paradigm. In effect, this expansion can strengthen the claim of objectivity of science because it does not only include men, but women as well. However, the mere addition of woman's experience into the horizon of man's way of knowing does not guarantee the equality of men and women in the field of knowledge production. The inclusion of woman's experience can only be a gesture of integration of women into the well-entrenched man's world of science. In effect, the standpoint epistemology can obliquely revert back to the malestream trick of accommodative or assimilative strategy of the inclusion of women. Although we accept that there can never be a complete epistemological break from the science-as-usual paradigm, we cannot also be complacent to mere accommodation and assimilation of women. Standpoint epistemology has to subvert this science-as-usual paradigm by working within its frame and by showing the limits of this science. In that case, this epistemology is disrupted to its core principles so that it can open up a free space for woman's

experience. Thus, feminists can create a way out from a mere accommodation or assimilation through subversion. They should always be vigilant and wary of the possibility of unwittingly reinstating or reinstalling masculine privilege in the production of scientific knowledge. In the case of narrative constitution, D. Haraway seems to be painting a picture of victimization of women from the pervasive masculine narrative that constitutes the female subject that can weaken or even take away the force of resistance of women against the patriline narrative. If this pervasive force prevails, then women become passive targets of constitution that only governs and normalizes their subjectivity without any recourse to and means of resistance. This victimization picture may in the end only steal away the agency of women in their continuing resolve to engage into struggles against patriarchal narratives. There must be some strategies and tactics of resistance that counteract this patriline force of constitution. Her proposal of narrative constitution needs to attend to the possibility of resistance against the patriline narratives by providing alternative narratives that could deconstruct this malestream science through an affirmation of women's difference and exploration of imaginative narratives that deconstruct the sway of patriarchy that prevents women's production of knowledge.

Moreover, they both adhere to the social construction of sex/gender. However, this adherence to social construction does not deny the biological basis of the sexes, but it does affirm only that this biological anatomy is always already constituted by and indissolubly linked with discourse. There is no way to separate discourse from biology so that one can attain a pure anatomy for they are inseparably interwoven. This social construction rejects the dominant theory of biological essentialism that views the sexes as inherently pregiven and predetermined. In biological essentialism, sex/gender hierarchy is a natural order of humanity that legitimizes the unequal relationship between women and men. Instead of this biological essentialism, feminists single out the patriarchal discourse that discursively produces the gender divide of masculinity and femininity. Being a male and a female is not merely an anatomically given, but it is a patriline narrative of a patriarchal society whose effect is the gender/sex hierarchy.

In science, the discourse on sex has historically evolved into complex and abstract theories backed up by institutional arrangements which buttress the asymmetrical relationship between man and woman. Social construction views the sexes as effects of discursive constitution which assigns them into a hierarchy. This discourse is linked with social practice that assigns respective roles and statuses for the sexes which are internalized and performed, and which constitute their particular subjectivities and identities. These feminists take up the struggles of women that redeem them from subordination and deconstruct the patriarchal world that perpetuate their subordination. Feminist discourse is a political position, not a biological destiny where both men and women can take up in the struggle for liberation of humanity from patriarchy. Thus, contrary to the prevailing view, feminist position is not exclusively for women alone, but for men as well because by taking feminist position, men can learn to relinquish their unmerited privilege and work for a just society. □