

Women and Values in the Vortex of Objectivity: Sharon L. Crasnow's Contribution to the Feminist Discussion of Philosophy of Science

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Article Info

Article history:

Received Aug, 2024

Revised Aug, 2024

Accepted Aug, 2024

Keywords:

Sharon L. Crasnow
Model-Based Objectivism
Feminist Philosophy of Science
Standpoint Theory
Double-Vision Approach

ABSTRACT

This study investigates Sharon L. Crasnow's perspective on the philosophy of science, specifically exploring its compatibility with feminist ideals. Crasnow introduces her notion of model-based objectivity as a reaction and expansion of the principles advocated by feminist empiricism, postmodernism, and Harding and Wylie's feminist standpoint viewpoint theory. Crasnow holds the belief that there is an inherent connection between science and value. The efficacy of grounding in scientific endeavor and the development of epistemic virtues depend on specific societal principles, such as acknowledging and appreciating women's contributions in scientific discussions. Feminism is not considered a dedicated adherence to a particular set of beliefs or ideology. Instead, people view feminism as a mindset or a critical scientific perspective. According to Crasnow, the best way to understand natural reality is to use a model to achieve a clear and objective understanding. The procedure entails identifying specific values that lay the groundwork for modeling. These values are evaluated by considering pragmatic variables and maximizing the achievement of goals. In this context, objectivity refers to the validation of a value based on its ability to improve people's lives to the fullest extent. This enhances the model's capacity to serve as a means of accomplishing it.

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1. INTRODUCTION

Humans are analytical beings by nature. This capacity has evolved unbeknownst to us, particularly in the early stages when we were not actively engaged in acquiring knowledge about the world. In a spontaneous manner, a series of philosophical

questions are being asked one after another [1]. Therefore, philosophy is an essential component of human nature for comprehending the world. According to [2], it is an integral aspect of human existence. According to him, philosophy seeks to comprehend the essence of phenomena. Furthermore, the comprehension of

understanding is also the central concern of philosophy in discerning the potential applications of understanding [3]. This encompasses the comprehension of science in its entirety as a human endeavor to directly, meticulously, methodically, and critically-analytically investigate the world. In this instance, the philosophy of science is a component of the corpus of philosophy that provides a critical evaluation and discussion of the epistemological, metaphysical, and logical issues that arise from the horizon of reflection on science and scientific activity [3].

Science is presented to the general public as something that is useful and contributes to development. The general public widely recognizes science as a practical and progressive field. Therefore, it is frequently characterized as a form of knowledge that has special advantages or benefits. Science is the methodical deployment of investigation techniques and the acquisition of information that is supported by reliable evidence. It is distinguished by its objective nature and firsthand observation of the natural world [4]. This characteristic is generally considered to be its defining feature, distinguishing it from philosophy as the source of knowledge. Williamson affirms this definition. He explains that in ancient Greece, philosophy has included natural philosophy, which is a field of study that specifically examines the natural world. Since the 16th century, the tendency has developed into a field of study referred to as natural science. The process involves a particular approach that incorporates experimentation, meticulous observation, and the utilization of specialized instruments to comprehend the essence of reality, starting with its constituent elements [2].

Driven by the search for objectivity, science is sometimes connected with the idea that it is absolutely objective and free of all human values. Early in the 20th century, developments in philosophical theory and science generally approved and raised the significance of the concept of scientific neutrality. Scientific objectivity necessitates

the autonomy of science from subjective values [5]. This results in issues with the exclusion of particular parties and aspects of its dimensions and characteristics. Considering human values to be sentimental can undermine the credibility of impartial interpretation of scientific discoveries, frequently neglecting social concerns and the essential aspects of life that deserve observation and contemplation.

On the other hand, feminism, whether as a movement or as a social and political perspective, embraces a commitment to egalitarian values, especially when it comes to women. Thus, feminist ideologies that recognize the influence of socio-political commitments and effects would perceive this focus on objectivity as unusual. However, as the philosophy of science underwent changes in the latter half of the 20th century, there was a corresponding evolution in how scientific practice and the generation of scientific knowledge were perceived. This has sparked a deep reflection on the need for the principle of value-free science and its objectivity [5]. In reference to the ninth point, Samir Okasha argues that science is not inherently devoid of values [6]. Crasnow argues that feminist critics perceive the pursuit of objectivity in science as an unattainable goal. A multitude of cultural, historical, social, political, and other factors inevitably shape science. Science is not devoid of perspective. Science has a perspective, but it does not possess the qualities of a divine perspective [7].

The scientific community has asserted that science can remove certain ideological values from its practices and outcomes, a claim that feminist science critics have challenged. These critics contend that sexist values influence science, hinder its quest for impartiality, and consequently lead to the production of flawed scientific knowledge. To illustrate this point, they cite historical instances of Nazi science. Feminist critical thinkers argue that specific socio-political values, particularly feminist values, can have a significant impact on generating high-quality research without necessitating a

false assurance of being completely “value-free” [4].

Feminist scientists and philosophers of science focus on the deliberate omission of women as researchers and scientific subjects, as well as the detrimental consequences of this exclusion. For instance, the omission of women as research subjects in studies on liver disease, based on the assumption that the disease affects women in the same manner as men, resulted in disastrous outcomes. This failure led to an acknowledgement that prompted the modification of study protocols. With the growing participation of women in science, there has been a greater recognition of the consequences of disregarding their contributions. Women play crucial roles in various significant domains of human existence, where they serve as the primary participants [5].

According to Sharon Crasnow, feminist criticism offers a broader viewpoint and possible solutions in addition to involving the inclusion of women. Even in the framework of gender organization, she claims, the dominant paradigm continuously downplays and ignores the significance of women's experiences and opinions. Crasnow argues that it is imperative to reconsider the fundamental concepts and theoretical framework in all areas, including science philosophy and science itself. According to her, the advancement of feminist philosophy of science can lead to a more radical interpretation, particularly in regards to the connection between value and objectivity. We can also derive this from the examination of women as scientific subjects, which has broad implications [5]. This paper aims to expound on these issues in light of Crasnow's ideas.

Crasnow is an American female and feminist philosopher, specializing in the philosophy of science. She is a Professor Emerita of Philosophy at Norco College. Furthermore, she has a keen interest in analytic philosophy, with a particular focus on feminist analytic philosophy. She is also a researcher at Durham University Center for Humanities Engaging Science and Society (CHESS) and has written extensively and

significantly contributed to the editing of several books in various fields of study. In the field of philosophy and science, she investigates the attempts to fully develop the concepts advanced by others who came before her and then suggests another path. Her analysis of the scientific model and its connection to the concepts of scientific objectivity distinguishes her approach.

2. LITERATURE REVIEW

Thus far, there has been a lack of thorough and focused examination or subsequent evaluation of Sharon L. Crasnow's perspectives, including her perspectives on the philosophy of science and its connection to feminism. To further investigate this matter, the literature review will examine a number of significant variables, including feminism and standpoint theory. It will also explore the connection between the philosophy of science and the feminist standpoint, as well as the responses to the main positions within the scientific community. This will provide a context for understanding Crasnow's viewpoints and stances.

2.1 *Feminism and Standpoint Theory*

The term "feminism," as defined by the "Oxford English Dictionary," pertains to advocating for women's rights on the basis of the principle of gender equality. Gender and the characteristics or traits associated with being female, commonly referred to as "femininity," also play a significant role. Feminism, according to Martha Easton, is a notion that embodies the fundamental beliefs a culture ruled by men finds objectionable—those of disgust, inferiority, biologically defective, or deceptively intriguing [5]. Feminism is a political and social movement that advocates for equality, justice, and

opportunities for women who sometimes experience marginalization due to gender and societal hierarchies. It is also a perspective supporting these values in all spheres of life and existence [7].

Moreover, feminism can be defined as the endeavor to achieve equal rights, and it can be categorized into many "waves" as a socio-political practice or movement. The first wave of feminism promoted gender parity in domains such as voting rights, political participation, and many civil freedoms. The second wave of feminism emerged in the 1960s and 1970s with the goal of attaining equality in various aspects of women's lives, such as education, employment, household responsibilities, and personal development. The third wave of feminism that followed was marked by a strong focus on exploring women's identity, specifically in relation to factors such as race, social class, religion, and other distinguishing traits [8]. Feminism became integrated into the academic realm during this phase, leading to the development of feminist discourse that interconnected language, symbols, and significance. The recognition of the diverse range of discussions became more prevalent, resulting in the formation of a phenomena referred to as "post-feminism" [9].

The study of feminist epistemology has been crucial to the growth of feminist movements and ideas. Feminist epistemology examines feminine "ways of knowing," focusing on the ways in which gender-related ideas, conventions, opinions, and values influence the progress of knowledge and scientific discourses. [10] asserts that feminism and its values can contribute to the validation of

knowledge. This is especially pertinent in cases where the study covers political comments or strong ideals with direct or indirect influence. Moreover, scientific study connects these ideals to their goals [11] critics object to scientism and objectivism for their disregard of the relevance of sex, gender, perspectives, and values in understanding the complex character of reality [12].

Donna Haraway emphasizes the importance of acknowledging knowledge placement. Contexts and settings shape the knowing subject's profile and consciousness. Furthermore, the contexts and settings shape the knowing subject's profile and consciousness. This is particularly evident in disciplines such as the humanities and sciences. The subject of knowledge functions as a "material-semiotic actor" that actively generates meaning within a system and process of interaction or meaning creation, particularly in relation to the formation of the human condition and its objective aspects at a specific point in history. The observed entity is not merely a resource but an active participant who both shapes and guides the discussion about itself [13] has interpreted Haraway's concept of an active actor in relation to women as the group's consciousness rather than the consciousness of the individual. She asserts that individuals within a group, situated within a specific context, possess a heightened awareness of their environment, in contrast to external observers who are not part of the group [14].

This epistemological breakthrough confirms the importance of value in scientific practice. Value is not only significant, but also unavoidable. Based on this premise, it presents a concept known as standpoint theory [15] posits that

individuals marginalized and oppressed by deeply rooted injustices often possess a higher degree of knowledge and awareness than their financially privileged counterparts [16]. According to standpoint theory, human efforts to understand knowledge and scientific investigation are essential components of the very reality we strive to understand. We don't just see knowledge as a reflection of reality and treat it as if it doesn't have any subjective assumptions. Instead, we recognize the inherent connection between knowledge, the thing that is known, and the person who knows it in certain and distinct situations. The implication is that knowledge derived from a certain perspective is not just based on one's own experiences but also affects the learner and their environment [17].

Sandra Harding posits that individuals frequently overlooked in terms of knowledge and societal advantages are more likely to provide more precise standpoints and facts than those distant from the observed events. This implies that individuals who lack access to knowledge are actually in a unique position due to their social status. Women possess a distinct standpoint when it comes to scientific investigation. Women's perspectives can offer scientifically advantageous starting points for generating and testing hypotheses, compared to perspectives from dominant men who have traditionally, though unofficially, been empowered to formulate scientific problems and test hypotheses [18] refers to this as the "thesis of epistemic advantage" [19]. This thesis argues that under specific circumstances, certain social factors can give a party a unique advantage in terms of knowledge and understanding. This advantage

depends upon one's location and standpoint within a particular epistemic project [20].

Feminism and the encouragement of femininity have the ability to offer liberation to the field of science as a whole, as well as to scientific discussions and activities specifically. For instance, employing feminist ideas and values in criticism might reveal different manifestations of androcentric bias that have been occurring. Therefore, feminist ideas and viewpoints can offer a more critical and sensitive kind of sensitivity as a historical endeavor, and as a transformative endeavor, they can lead to a critical awareness of the various potentials and expanses that are still unrealized in many scientific projects [21]. Taking into account the standpoint, personal experience, and distinctive features of the subject being studied can yield numerous knowledge benefits. These advantages include access to various types of evidence, such as supporting or related evidence, the ability to use specific strategies to analyze different aspects of the subject, a broader range of interpretations and possible explanations based on the evidence, and a critical mindset that questions previously accepted knowledge [22].

2.2 *Philosophy of Science and Feminist Stance*

Sharon Crasnow, elaborating on Sandra Harding (born 1935), categorizes feminists in the realm of epistemology and philosophy of science into three distinct positions: feminist empiricism, feminist standpoint theory, and feminist postmodernism principles. [12] has categorized feminists in the fields of epistemology and philosophy of science into three distinct groups: feminist empiricism, feminist standpoint theory, and the ideas of feminist postmodernism, as described

by Crasnow. According to her, this classification does not provide an exclusive or definitive category [22]. Nevertheless, she contends that these three positions can significantly contribute to the cultivation of philosophical reasoning within the feminist philosophy of science framework.

According to Crasnow, when it comes to feminist postmodernism, many intellectuals recognize and accept certain aspects of postmodern critique. However, they do not endorse the relativism that is typically associated with postmodernism. They believe that rejecting concepts such as 'God's point of view', which implies obtaining knowledge from God's perspective on the world, does not signify a commitment to relativism. Nevertheless, Crasnow contends that feminist postmodernism is still susceptible to the stigma associated with relativism. In fact, she argues that from the perspective of the English-speaking (Anglophone) tradition, postmodernism is utterly boring and often associated with epistemic relativism, which can inhibit the possibility of knowledge. Critiques of feminist epistemology, therefore, usually revolve around this issue [23].

On the other hand, feminist empiricism is distinguished by the assertion that it provides reliable empirical methodological principles as a safeguard for sound scientific practice. Crasnow highlights [15] concept of contextual empiricism, arguing that empirical data and evidence are insufficient to definitively determine which hypotheses and theories to adopt. Contextual values, also known as non-cognitive values, have the power and necessity to influence that determination [24]. The contextual values influence its underlying

assumptions, which in turn determine the significance of its experimental measurements, observations, and results. The system's reliability and resilience in the face of criticism reinforce its stability and legitimacy. Justification entails both the empirical testing of hypotheses using observable data and the submission of underlying assumptions [25].

Crasnow points out that Helen Longino explores the communal aspect of science, which allows for a unique form of transformative criticism. One can raise objections and encounter challenges when it comes to the necessity or fairness of embracing certain values or perspectives while dismissing others. This is particularly evident in the cases of terrorism, patriarchy, and androcentrism in relation to women. According to Longino, certain concepts and principles should be disregarded and considered insignificant in metaphorical discourse. Crasnow, on the other hand, acknowledges the ongoing challenges in precisely delineating which values should be considered deserving of exclusion. In this specific case, the holistic perspective suggests that value can be directly assessed. We can instinctively identify it in our personal encounters. Certain values and perspectives are disregarded if they do not conform to an accepted belief system. Crasnow offers an interpretation of this concept that suggests a belief cannot be deemed a valid part of a belief system if it is shown to be unworthy or inappropriate according to commonly accepted social standards of what is considered "better."

However, Crasnow contends that Holism's proposed solution to the problem of exclusion in science falls short of providing a sufficient

explanation. The concept of holism presents us with the challenge of discerning which specific beliefs to abandon. According to Crasnow, it is not always easy or straightforward to use experiential evidence to determine a value when there are multiple competing values. Crasnow ties this closely to the issue of faith [2], [12].

2.3 *Response to Postmodernism and Feminist Empiricism in the Philosophy of Science*

According to Crasnow, feminist standpoint theory offers three theses, primarily in relation to science and philosophy of science. The first thesis posits that the specific social context of the scientific subject, particularly women, influences knowledge. In this example, dominant groups, particularly men, impose marginalization on women. In contrast to modern science's perspective, which asserts the existence of universal perspectives and techniques for attaining the truth about reality, this situated thesis rejects the possibility of what Thomas Nagel (b. 1937) referred to as the 'view from nowhere' [13].

Knowledge is contingent on a specific social, cultural, or political context. Disparities in the distribution of power and social positions also influence the amount of knowledge an individual has about a scientific topic. Crasnow asserts that a scientific subject with a feminist perspective should possess the capacity of 'double-vision', meaning that it should be able to both function as an expert and as a subject who directly experiences the marginalization resulting from their 'social location' [11]. Their second thesis is about epistemic privilege. Critiques of feminist standpoint theory primarily focus on this thesis, asserting that privilege is a natural phenomenon.

The belief that not all women inherently possess this privilege and are aware of all other women's experiences initiates this critique. According to Crasnow, these critiques rely on assumptions or claims about the uniformity of all women [5]. People perceive standpoint as advocating for the affirmation that certain ways of seeing, like those of women, are epistemically privileged [19].

Crasnow contends that there have been challenges to this epistemic privilege thesis, primarily due to its insistence on a relativism of knowledge that is unacceptable when combined with the situated knowledge thesis, and its insistence on ignoring socially and politically relevant differences among women. The diversity of women is not acknowledged, and this is seen as presenting a new universal metaphysics, namely the replacement of the universal male by the universal female. Certain female characteristics, in this case, are seen to apply essentially to all other women [16]. However, Crasnow argues that standpoint theory does not claim that women possess inherent epistemic advantages. While marginalization is a significant factor, it alone is not enough to establish an advantage for a particular group, such as women.

Crasnow asserts that scholars such as Dorothy Smith view standpoint as a feminist methodology, contending that standpoint is the point of departure for inquiry. From a woman's perspective, it is more effective to analyze the issues at hand and the pertinent information in this particular situation. The acquisition of a woman's point of view is not automatic, but rather something that is acquired and developed over time. Acquiring standpoints requires

learning and expanding consciousness. 'Occupying' a particular social 'location' is not sufficient. Therefore, acknowledge diversity among women [19]. According to Crasnow, interpreting situated knowledge and epistemic benefit theses in isolation and mistakenly viewing them as assertions of individualistic knowledge can lead to significant challenges. Standpoint theory should be positioned as the knowledge of a class, group, or community, as its knowing or scientific subject, rather than the knowledge of an individual.

Knowledge is a product of social interaction and collaboration. The final thesis, "achievement," requires a differentiation between feminist standpoint and perspective. Nevertheless, while reworking the third thesis, "achievement," presents a potential solution, the previous criticism, as argued by Crasnow, motivates further investigation into the formulations and principles of standpoint theory, thereby addressing the issue of objectivity in science [20].

3. METHODS

The current work utilizes a general qualitative methodology, employing a library research method, to examine and evaluate Sharon L. Crasnow's perspectives and contributions on feminism and its connection to the field of science. Critical reflection and philosophical hermeneutics are the analytical models used. Theoretical evaluation is required to achieve a clear and concise explanation of a concept, as well as a coherent balance between the data. This evaluation also helps to establish the simplicity of the explanation [25]. We conducted the investigation by examining the pertinent and explanatory meanings facilitated by the supplied data.

To be more specific, the method used in this study involved the following methodical steps: The study involved the following methodical steps: (1) Gathering pertinent data sources; (2) Classifying data sources into primary sources, specifically Crasnow's works pertaining to the aforementioned themes, and secondary data, which includes other works by Crasnow that can bolster the discussion, along with other pertinent supporting sources; (3) Extracting relevant data from these sources and organizing it systematically; (4) Conducting hermeneutical interpretation of the data and constructing a narrative of discourse development in a structured manner. The process of interpretation entails merging horizons between the subject as a reader and the data set as a text that provides opportunities for comprehension and knowledge generation [26]; (5) thus, an explanation of Sharon L. Crasnow's perspectives on feminism and science is obtained based on the outcomes of critical reading, particularly through her offer of "model-based objectivity."

4. RESULTS AND DISCUSSION

From the perspective of philosophy of science, the main question to be asked regarding the position of women and feminists is whether feminist principles and values can produce good science that is at least better than what other methods produce. However, this requires further understanding of the criteria of good science, which is closely related to the issue of value in science [23].

4.1 Three Faces of Value-Free Ideas

In the realm of science, objectivity, which is closely linked to the requirement of being free from bias and the demand for value-free condition is not entirely devoid of subjective influences. Crasnow states that in a general context, certain values are adopted as a basis. Fundamentally, those values are assumed to be something called cognitive

value. This cognitive value encompasses the belief in epistemic virtues, such as empirical adequacy, truth, explanatory power, and predictive success. It also includes other values like fruitfulness, generality, and simplicity. These cognitive values are distinct from non-cognitive values, which encompass social, cultural, and political values. These non-cognitive values are considered disruptive to the 'traditional' and 'common' belief in the objectivity of science [27]

Following Hugh Lacey, Crasnow distinguishes three distinct forms of the "value-free" principle. Firstly, it is crucial for science and scientific research to operate independently, free from specific socio-cultural norms such as financial influence, control, or a particular agenda. Second, it is neutral when it does not presuppose or imply any particular value. Third, it is impartial when its judgment of something is based on only cognitive values. Nevertheless, Crasnow acknowledges that science is inherently neutral and not devoid of values. Several factors, including the allocation of research funding, are influenced by the decisions made by policymakers, who take into account their social, cultural, and political considerations and backgrounds [26]. Crasnow argues that feminist critique in science plays a crucial role in emphasizing the importance of values and interests. Specifically, it highlights the necessity of socially responsible science, which influences scientific decision-making [28].

Therefore, for Crasnow, the responsibility of feminist scientists is to prove that feminist principles may have a valid influence in the field of science and to illustrate the importance of fairness in asserting neutrality. While scientific theory is not completely devoid of values, it can nonetheless maintain a feeling of impartiality by disregarding certain hypotheses that are considered irrelevant. Feminist philosophy of science regards ideals, concepts, and foundations that are non-egalitarian, patriarchal, and strongly centered around male perspectives as insignificant [5]. Crasnow recognizes the potential offered by

Sandra Harding and Alison Wylie's theories when it comes to addressing the matter of objectivity and value. Crasnow finds the previously discussed concept of a generalized value-free idea problematic due to its association with objectivism. The reason for this is that it dismisses contextual values as having the ability to influence knowledge. It excludes certain situatedness as having epistemic values [20].

4.2 Criticism of Harding's Strong Objectivity

Sandra Harding proposes a new definition of objectivity, advocating for a concept known as "strong objectivity." [5] In contrast, objectivism, generally preferred, demands disinterestedness, impartiality, impersonality, and a value-free stance [28]. This type of objectivity places emphasis on conducting research on scientific issues and processes, applying the same standards used to investigate scientific objects [28]. Within the scientific domain, various contextual factors such as problem identification, hypothesis creation, research design, organizing the scientific community, data collection, interpretation and selection, final research conclusions, and reporting activity should be subject to critical examination. The phenomenon of insider/outside double-vision can assist the researcher in effectively evaluating these contextual aspects [26].

The standpoint theory allows for strong objectivity by acknowledging the influence of values in the production of both reliable and unreliable scientific knowledge. This is achieved by focusing attention on the subject, her perspective, her preferences, and contemplating her contribution to the generation of knowledge [29]. Reliable or good knowledge, therefore, does not depend upon the eradication of subjective stances or the adherence to the misguided notion of objectivism. Instead, it arises from the examination of whether and how understanding and comprehension are improved when these perspectives are involved. Robust objectivity necessitates the integration of scientists and their

communities into a project that promotes democracy, advances scientific and epistemological reasoning, and addresses moral and political considerations [24].

However, Crasnow poses questions such as, "What are the criteria for judging a value as more towards good science, or vice versa?" Harding's proposal to empower democratic ideals as a means of advancing scientific progress emphasizes the importance of taking into account or assessing the social impact. In the case of Crasnow, determining which social values are more orientative entails distinguishing between social values and epistemic values, and then evaluating these social values using epistemic criteria. Furthermore, Crasnow finds it difficult to reconcile Harding's attitude of "not being so hard" with these conclusions, given the acceptance of diversity as a strength for feminist perspectives and Harding's earlier concept of "strong objectivity." This is because acceptance of plurality has the potential to silence widely accepted forms of value objectivity [4].

4.3 Crasnow's Response to Alison Wylie's Rehabilitationist Objectivism

Alison Wylie (born in 1954) proposes a reevaluation of the conventional criteria used to judge theories by placing them in a new context. An objective theory is one that adheres to specific criteria of epistemic virtue, including empirical adequacy, explanatory power, internal coherence, and compatibility with other established bodies of knowledge. Objectivity is just our commitment to a set or standard of epistemic virtues [4]. Wylie's focus does not involve specifying the types of epistemic virtues that are included in the list. He acknowledges the possibility of dispute over the proposed traits and their significance [5].

Crasnow contends that Wylie's views aim to question the concept of objectivity, which has traditionally been thought to be achieved by eliminating prejudice through the application of suitable procedures. Nevertheless, Thomas Kuhn (1922–1996), a

prominent philosopher of science, argued that it is often impossible to maximize all the epistemic qualities connected with knowledge claims simultaneously. How these traits are maximized depends on the party's goals, interests, and desires [5]. As a result, objectivity can be seen as a manifestation of these traits, which means that, depending on the point of view, some traits can be more effective at maximizing others. Indeed, the point of view used in the standpoint case might help promote objectivity by focusing on certain qualities like empirical sufficiency, explanatory power, or other virtues that are relevant to the task at hand [6].

Wylie highlights certain unique assertions of standpoint theory, including the assumption held by its theorists that subordinate situations possess greater epistemic value. Being in such a position grants access to specific sorts of data, specialized inferential heuristics, interpretative strategies, and the ability to formulate explanatory hypotheses that are superior and not accessible to individuals who are not experiencing that situation. According to Wylie, standpoints also assert a deliberate separation from taken-for-granted and commonly accepted kinds of knowledge in favor of specific types of knowing. We do not expect the disadvantaged group to gain any inherent knowledge advantage in this case, nor do we guarantee that their knowledge will immediately become more objective. Standpoint theory is considered a valuable tool for individuals involved in scientific endeavors and seeking to comprehend reality through scientific knowledge. By considering objectivity as interconnected with the virtues outlined in the list of standards, it becomes feasible to elucidate the insights and goals of feminists and how they contribute to the realm of objectivity [28].

In addition, standpoint theory must also possess self-criticism and openness. The purpose of this is to prevent oversimplifying and generalizing to the point of disregarding important nuances. This acknowledges the social context, position, and intricacy of

knowledge creation, while also emphasizing the importance of being well-informed without asserting oneself as the ultimate authority in shaping knowledge. This implies that apart from taking into account feminist standpoints and experiences, it is also anticipated to empower and accommodate diverse perspectives and actively participate in dialogue across various divides. Therefore, by maximizing the uniqueness of each perspective, it can contribute to the creation of knowledge that is more comprehensive and inclusive [26].

Limiting the acceptability and sufficiency of a woman's standpoint to exclusivity often leads to overly strong claims. Rather, it should consider several points of view and settings, not only those of one woman or a particular group. It should aim to provide thorough and fair coverage of all women's experiences, and it can even entail working with men without subordinating them. The foundation of this cooperation should be mutual encouragement and improvement [27].

Wylie refutes the view that we will only get one definitive answer that will work in all circumstances. Crasnow consolidates these concepts by articulating their convergence as a comprehensive framework, including various aspects of feminist scientific philosophy. Crasnow cites Wylie's critique of Harding's suggestion that we will obtain an answer to the question of which standard is better. Wylie refutes the view that we will only get one definitive answer that will work in all circumstances. The assessment of whether the theory exhibits suitable epistemic virtues at the appropriate level is dependent on the situation, particularly one's interests and objectives. Contextual circumstances influence our acceptance of knowledge by determining whether epistemic virtues prevail over others in prospective competition [26].

Crasnow observes that the epistemic virtues mentioned by Wylie are contingent upon the interests, intentions, and aims of the subject engaged in inquiry. This aligns with the concept of feminist standpoint. Crasnow

argues that standpoint stance can enhance objectivity by helping to identify the specific virtues that are pertinent to a scientific effort, taking into account the researcher's interests, goals, and other factors. Crasnow contends that the adoption of a feminist perspective can enable individuals who are typically marginalized to think more critically and benefit from epistemic advantages, including the capacity to formulate hypotheses and interpret problems, direct experience, evidence, and specialized inferential heuristics. However, the extent of these benefits is also contingent upon other conditional factors [4]. However, Crasnow is able to present her own perspective on objectivity through her concept of model-based objectivity.

4.4 Crasnow's Proposal: Model-based Objectivity

Crasnow develops the concept of "model-based objectivity" as a means of achieving objectivity in the feminist philosophy of science.

She argues that when a philosophical debate ends without a resolution, there are times when someone proposes a solution that rejects both of the options under debate [27]. Thus, as per Crasnow's perspective, it is more advantageous to see science in terms of models. Crasnow emphasizes that models are not 'primarily' linguistic entities. Although there are some linguistic aspects, and all of them may generate claims, they do not encompass the crucial elements necessary for the model's involvement in scientific knowledge. Crasnow elucidates that a noteworthy characteristic of the model-theoretic concept is its emphasis on pragmatic factors. Models serve as intermediaries, or connections, between theoretical concepts and the real world. Models serve as essential instruments in scientific activity, playing a crucial role despite being only partially representational. It offers a method of engaging with the world and comprehending it. Crasnow elucidates that models possess a somewhat hybrid essence. It is neither a theory nor a simple description of the world.

However, it is able to mediate between theory and the world, and actively interfere in both domains [28].

Crasnow argues that models can guide us towards a state of objectivity. Science has to deal with the problem of selecting and defining "objects of work," in contrast to the abundant and varied natural objects. Crasnow also refers to the subject of study as "the object of scientific knowledge" (OSK). This context does not intend modeling to be a 'construction' or a literal representation of the world. We do not intend for scientific objects, including OSK, to be isomorphic or identical to those found in the natural world. Instead, they serve as tools for acquiring knowledge about these objects [20].

The scientific subject's prior decisions limit the selection of sides or properties from the natural world that are to be 'incorporated' into the model. In this instance, our presupposition or prior knowledge causes us to believe that certain characteristics or attributes are more important to our interests or objectives than others. Additionally, this principle does not necessitate the distinction between the social and the epistemic, or the cognitive and the non-cognitive. Rather, the two are interconnected and entwined in a variety of ways. Crasnow elucidates that this feature allows us to address the questions we are currently facing at any given moment. Our interests and objectives are reflected in these inquiries. They are a reflection of our interests and aspirations, which in turn motivate us to prioritize and concentrate on a specific domain within the vast natural universe [19].

Crasnow also highlights the issue of determining which attributes or characteristics are considered 'true' in this particular situation. She claims that this is a wide-ranging empirical question. The process of constructing models and scientific objects is closely intertwined and progresses simultaneously. We engage with the world by utilizing models, employing them, and making modifications as necessary. With each successive change, we engage in a process of evaluation and adaptation, even going so far as to consider a complete overhaul in order to

determine the ongoing relevance of the selected characteristic or attribute to our goals, or vice versa. Thus, the model is in constant elaboration when our aspirations broaden, we fall short of attaining them, or the aspirations and objectives themselves undergo radical or gradual transformations. A comprehensive theory can provide guidance and constraints on the selection of models by specifying which types of things can be represented. Models necessitate the formulation of decisions regarding the world, as they are constructed with particular objectives in mind. Therefore, the things we consider important are essential components in building the model. According to Crasnow, value is an inherent aspect of science. Model-based objectivity guides us in evaluating social values as one of several aspects that influence our selection of characteristics or the stance of reality [20].

Model-based objectivity does not necessitate a global distinction between epistemic and non-epistemic, cognitive and non-cognitive, or even cognitive and constitutive values. Modeling inherently incorporates values. Therefore, all models reflect the preferred form of value. When values enter into the conception of the object and become part of the framework for studying it, they do not serve as an additional or non-scientific element, nor do they act as a social component that affects our decision on which empirically valid theory to accept. Rather, we should recognize and evaluate them as an inherent part of the process of generating knowledge [20]. In addition, Crasnow clarifies that when it comes to the phrase "better," a value in a model that offers a superior explanation does not necessarily mean it is more empirically adequate than others. Instead, each model assesses the argument based on its relevance, with one model demonstrating greater success than the other. Thus, the preference for one model over another is contingent upon its level of success in achieving the intended objective [19].

Model-based objectivity, which advocates for the use of models in scientific inquiry, may introduce a form of subjectivity

that allows personal interests and objectives to influence science, leading to a form of relativism that presents unique challenges. Nevertheless, factual limitations and empirical constraints on value eventually form the foundation of objectivity. We obtain and secure objective knowledge from the model by applying value, instead of relying on a supposedly value-neutral standard of knowledge. Crasnow clarifies that this premise should be affirmed even though it appears contentious. This is because, from her perspective, there are numerous aspects that humans must prioritize, as having a sense of rootedness, values, or foundations is essential for our existence.

4.5 On Value, Objectivity, and Women's Stance

In the context of feminist philosophy of science as well as 'feminist-colored' science itself, the process of generating scientific knowledge through model building serves as a way to comprehend the potential value of a feminist standpoint. Standpoints necessitate explicit awareness of interests or desires, as they are employed in formulating models of the world and justifying their significance [20].

Appropriating standpoint theory creates a science 'for women,' stressing the role of knowledge as a tool and the clear representation of certain groups' interests. The standpoint theorists propose a model that reveals and clarifies the properties that contribute to organizing the power relations that keep women in subordinate positions. The intention is to present knowledge that can enable women to negotiate their stance or means and ultimately change power relations [19].

Values shape the objects in our world. They influence the formation and characterization of the objects that exist in our environment. However, with regard to models, Crasnow asserts that objects 'within' models are not the same as the objects of our world. Since models only act as intermediaries between the subject and reality, they serve as endeavors to

comprehend it. The efficacy of a model depends on its ability to precisely conform to the intricacies of the real world, particularly those that are relevant to the intended objectives of the modeling process [20]. In this situation, Crasnow argues that in order to consider a 'conversation' between several values as a model that provides evidence, it is necessary to not just have the perspective of a scientific expert but also to grasp the perspectives of the individuals involved. Crasnow provides an example illustrating that, in order to understand the complexities of a mother-child relationship, it is not sufficient to simply observe from an external perspective. Rather, one must actively participate in their daily lives. Thus, values can serve as explanatory frameworks. Expanding or narrowing the scope can further support this, allowing for the development of other forms of values or models that are more explanatory in specific cases of the relationship. These alternative values or models may be distinct in nature. This relates to the process of emphasizing the perspective approach [21].

In this context, Crasnow does not interpret feminism's position as a dedication to a belief or a sort of ism, but rather as an attitude or stance. However, Crasnow observes that we have a tendency to firmly associate feminist ideas, such as feminist epistemology and feminist philosophy of science, with specific opinions held by certain feminists, women, or groups of women. We can prevent the aforementioned fallacy if we regard it as an attitude or perspective, rather than a fixed position or dedication to a specific set of views or ideologies. The feminist attitude, as characterized by Crasnow, possesses multiple distinct traits. Firstly, self-identification refers to perceiving things from one's own perspective. Furthermore, by upholding egalitarian principles, one can use them as a framework for evaluating goals, even those in the scientific field. Furthermore, this identification demonstrates their awareness of gender as a pertinent, or at least potentially pertinent, category of analysis within the given situation. The final attribute

is the correlation between thought or cognition and action or behavior, ensuring that there is no disjunction between principles and convictions, the objectives we strive for, and the methods, namely, the instruments or frameworks by which we attain those objectives. A "feminist stance" and a "feminist position" differ in that the former does not rely on any specific belief to be considered feminist. Adhering to this particular style of feminism, known as the "feminist stance," entails acknowledging the possibility of agreement or shared understanding with the principles of the philosophy of science and traditional science, particularly in relation to shared challenges in the field of science, such as evidence, the role of the empiricist, and other related matters [22].

In objectivism, 'objectivity' is said to originate from the realm of science itself, as stated by Crasnow. This includes the assumptions, scientific principles, methodologies, scientists, or practitioners, as well as the recipients of scientific knowledge, namely the general public and non-experts. The claim or self-proclamation is present along with the claim of its elite, gendered, and racist position, either clearly, whether explicitly, covertly, or inadvertently. Crasnow argues that scientists need to realize that scientific claims, disciplines, and their underpinnings frequently reflect the interests of specific racial classes or groups [21]. According to Crasnow, it is essential to provide an alternative interpretation of feminist philosophy of science, not just as a break from tradition and the previous objectivist chauvinism, but to give a unique and distinct view. The feminist philosophy of science stance demonstrates the extensive scope of recognizing how political factors can influence our comprehension of the universe and our role within it, which is considered a fundamental assumption of feminist thought. The interconnection between truth-seeking and a critical, and even political, posture is not mutually incompatible but rather dependent on one another [27]. Nevertheless, according to Crasnow, this assertion lacks widespread

endorsement, even from those directly involved [25].

5. CONCLUSION

Sharon Crasnow's model-based objectivity presents a solution to the issue of objectivity and value in science, while altering the nature of the problem itself. Crasnow emphasizes that instead of considering how science can maintain objectivity despite the influence of values in knowledge production, her principle explicitly acknowledges the role of values. She believes that scientific knowledge operates by elaboratively measuring the value of projects or activities that will improve the lives of people. Objectivity is seen in the extent to which value and the scientific process are interconnected and facilitate human achievement of goals that are directly aligned with their advancement, progress and betterment; the advancement of the human race. Advancements made by humans within that particular framework. Within the framework of feminist philosophy of science, there is a strong emphasis on the importance of inclusive scientific endeavors that take into account the social impact of gender and other standpoints or dispositions. Such projects aim to rectify any aspects that are perceived as having negative or detrimental implications. This is a project that will produce better science.

In short, Crasnow thus explains that the right question to ask is not how science can be objective when values are involved, but which values can provide us with a basis for modeling, for explanation, that will give us objectivity in this sense. The standard of objectivity that Crasnow unfolds, is the measurement of objectivity by identifying whether the model adopted is, factually, conducive and functional-pragmatic, to human progress. Thus, we have successfully captured the object and established its relevance in our lives.

According to Crasnow's perspective, the goal is to aid us in 'thriving' and surviving. Although there are many interpretations of it,

At the very least, the models we construct are based on and within the parameters of meeting those needs. Therefore, our science is objective when it enables us to effectively engage with the world while adhering to our goals and values. After modeling these objects of study, Crasnow says, we are more likely to achieve our goals. In this process, we apply pragmatic wisdom, evaluating its impact against our baseline to determine which interests truly benefit us. This, Crasnow says, is the ongoing empirical problem.

Model-based objectivity is different from traditional objectivity in science, which claims to be value-free. Objectivity is sometimes linked to the correctness of knowledge claims. In short, it is the truth. In this case, pragmatic considerations of how successful the model is are paramount. There is also a minimalist feature that limits the model, as the vastness of the world means that not all models can achieve equal success. Thus, some values, or models, will be ruled out in this case. Crasnow views this as rationality-limiting but not orienting. That is, within the limits of rationality, there may be a plurality of options for good models, all of which will be 'objective' based on Crasnow's objectivity criteria. This orientation to the scientific object's world is part of what ensures objectivity. Thus, model-based objectivity is objective because it requires values that guide the model's construction, subject to the preceding constraints. In short, something objective based on the model's workings must

be able to function as a tool to achieve our goals better and more successfully.

This enlightens us on how a commitment to values can still enable the attainment of objective scientific knowledge. Identifying an awareness of social values can lead to developing both the understanding of science in the philosophy of science as well as science itself. Even if these feminist principles can contribute substantially to the sphere of science and values, the question of what form that contribution will take remains. Could the feminist principle truly make a unique contribution to science and values that others cannot? In this regard, it is not at all clear that we can identify criteria that would allow us to understand what is uniquely feminist without doing so through conjecture about the essential nature of women, especially their ways of knowing as subjects of knowledge or scientific subjects. Nevertheless, Crasnow argues that such an essential nature is unnecessary. Crasnow recommends that feminism be regarded as a descriptive attribute of a particular attitude or collection of attitudes in this context. In the context of 'empirical traits,' 'feminist traits,' or 'feminism as a trait,' the argument posits that the essence of empiricism is not its allegiance to these beliefs, but rather its dedication to a specific approach, despite the fact that empiricists may adopt certain aspects of certain beliefs. The respect is not for empiricism as an ideology, but for the empiricist approach, which is characterized by its values and principles.

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