

Understanding Principles of Physics from Feminist Lens

Anupreet Chatterjee

Abstract: *Physics is considered as the ultimate truth which can be verified using formulas and these formulated frameworks lead to formation of theories of Physics. Science of ordering the nature led to its exploitation and nature's subordination in the field of Sciences is leading to production of androcentric knowledge which is not capable of dealing with issues in a sustainable way. For creating a sustainable knowledge in Sciences, we need more women to participate in creating alternative sciences because the Science of energy is a cumulation of both masculine and feminine energies but these energies are co-existing to form a balance in nature. Thus, we cannot undermine femininity so as to address ecological problems. Nature is supreme to every knowledge we have created or we are in the process of creating. It has relevant solutions to our problems only if we are able to understand it instead of exploiting it. This article would emphasize on how feminist sciences can help in creating a balance in nature.*

Keywords: Physics, Sciences, Nature, Eco-Feminism, Alternative Sciences

1. Introduction

We are inquisitive minds, replicating and imitating images perceived by our minds. Every form of knowledge creation begins from the subconscious stage as described by Lacan because we build our perceived images while we are dreaming or thinking deeply about these images. Often, we tend to forget the synergy between what we are thinking and how we are applying what we have visualized in our subconscious minds. Science has been formed due to this synergy. Rationality has been defined by liberal feminists like, Wollstonecraft (1978) as a substantive amount of reasoning present in both men and women. Therefore, the way they perceive those images may change but it does not mean that women would not be in a position to perceive what they have imagined in their subconscious minds. Thus, we cannot limit spaces for women if they are interested in pursuing natural Sciences. Feminist scientists like, Keller have asserted that women were not allowed to pursue Sciences due to androcentric nature of scientific thought (pp.60; 2001).

Science has been considered as 'faithful reflection of nature' and beliefs do not lead to formation of Sciences because scientists considered beliefs as myths and superstitious (Keller, 2001). Therefore, it is quite evident to state that even the scientists failed to understand the synergy between what we have perceived in our minds and how we are acting to not violate the protocols of those perceived images. Science has been formed by using such mental images. Knowledge begins from imagination and imagination leads to formation of what we have perceived and then conceptualizing and understanding those images leads to development of theories. Here, it is quite relevant to question: if Physics did not emerge from imagination then where did it originate from? Eminent scientists like Einstein (1929) have confessed that new knowledge or theory can only emerge if we are imaginative and reflective. Rather, Einstein defined imagination as more powerful than knowledge because construction of knowledge is limited to what we perceive and understand.

Imagination could be shaped by social realities and experiences. Therefore, it is quite imperative to understand that 'beliefs cannot exert force on the world'

but people who believe in these beliefs have controlled the production of scientific knowledge (Keller, 2001). Thus, this article focuses on how culturally laden language lead to development of scientific minds and lead to creation of androcentric sciences which undermines the calibre of women to practice sciences. This article would also emphasize upon how feminist sciences could help in developing alternative sciences for creating a balance in nature.

2. Review of Literature

Scientific revolution led to changes in conceptualization of nature of the nature and the nature of knowledge. During this timeframe, nature was considered as an object of exploitation for man's benefits. Due to emergence of scientific temperament, humans did not live in harmony with nature and subjugated the feminine nature in order to produce knowledge. Scientific temperament could be considered as a belief which tampered human's consciousness and led to the creation of androcentric Sciences. This belief also led to inconsideration of women's rationale to enter sciences as Keller (2001) has stated that beliefs have led to controlled knowledge production of Sciences by men wherein women are not considered as active participants in Sciences. Kuhn (1970) has argued that Science cannot be developed by accumulation of individual discoveries and inventions but scientific revolution led to individualization and invisibilization of contributions. Consciousness of scientists led them to create a partial truth which they could project as wholesome knowledge of understanding a particular phenomenon. In this process of knowledge production, contributions of women scientists were not even taken into consideration.

Kuhn (1970) believed that if outdated beliefs are considered as myths then myths can be produced by same methods and reasons for building the scientific knowledge. Thus, he considered outdated beliefs as not unscientific because these beliefs have led to production of new knowledge. A system of new knowledge can only be created if old forms of knowledge or theories are falsifiable. If observation and experimentation could only lead to formation of new knowledge then other streams of

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Sciences would not have emerged. For instance, emergence of Quantum Mechanics is focusing upon how energies have led to formation of the universe and how energies could lead to transformation of forces.

Quantum Mechanics believes in instrumentalizing transformation in a scientific way. These energies have led to formation of our lives and evolution is not the only reason of our existence because there is synergy among these energies. Thus, it is quite imperative to understand not just the philosophical realm of Sciences but also its spiritual interactivity with universal spaces. To understand the interactionist model of Sciences, we must also understand the difference between how men and women could lead to production of different variants of knowledge because Harding (2001) has proposed humans lives are not homogenous in a gendered society which assigns different roles to both men and women and using women's experiences as a ground to produce knowledge, we can create a knowledge which can lead to decrease in partialities and distortions in visualizing nature and social life. Thus, without understanding how people interact in a sociological order, we cannot understand the structured ideologies which lead to creation of certain theories. Therefore, it is necessary to interpret theories from various positions which could lead to formation of sustainable pre-suppositions leading to development of theories which could increase our harmony with nature. As Harding has mentioned that women's standpoint could lead to creation of reliable knowledge pertaining to nature and social relations because women's lives are severely affected when nature is exploited as women's nature and their roles are similar to that of the nature's role. Thus, this article would trace how feminist sciences could lead to creation of knowledge wherein nature would be understood instead of being ruthlessly raped for man's satisfaction.

3. Analysis and Discussion

As Keller (2001) has mentioned that laws of physics gave us closest proximity to truth. Therefore, I would take Quantum Physics into consideration and view its interactionist paradigm with relevance to sociological framework.

Quantum Mechanics is a fundamental theory of Physics which describes nature at smallest scales of energy levels of atoms and sub-atomic particles. Thus, it observes the synergy between energies and it is quite interesting to find the similarities between how the scientific models of structuring of atoms and molecules are similar to the structure of society. Both are hierarchical in nature and in Sciences and Social Sciences, hierarchies lead to formation of ideologies which further leads to conceptualization and development of new theories. So, while creating theories we cannot debunk beliefs completely as proposed by Keller. Harding has also proposed that there are fundamental differences between roles of men and women but if women's situatedness is considered during the formation of knowledge then the knowledge would be less partial. Thus, we must understand the interactionist model of atomic structure to further deconstruct the process of fission and fusion.

To deconstruct the process of fission and fusion, I would use feminist lens to view how women could lead to development of scientific theories which are capable to address ecological issues. People might question that these fundamental theories lead to development of nuclear theory: a theory which was considered as a partial framework of Einstein's popular theory, Theory of Relativity. Einstein was quite resentful after theorizing it and commented that it was his life's biggest mistake as this theory lead to formation of bombs, one of the destructive tools deployed by humans for their survival. Thus, we can situate Kuhn's argument of falsifying theories to create knowledge plays an important role in increasing the inclusivity of knowledge and assessing its impact. Psychologists have confessed that women's minds are more inclusive than men's minds. Therefore, Science could emerge as sustainable form of knowledge if more women practice Sciences as Haraway has mentioned that partial perspectives lead to both its promising and its destructive consequences. If women are able to practice Sciences effectively then they would be able to manage consequences in a holistic due to their psychological advantage and their social situatedness. Haraway (2001) has also emphasized upon how location of women could lead to more enabling and responsible practices in Sciences.

Concepts of Sciences are quite relational and can be understood in a sociological way. Lacan's theory of basic structure creates sub-structures and super-structures. Thus, we can visualize that our minds are creating structures on how we understand what we perceive. This, structure of atoms has been perceived by our minds on the basis of scientist's understanding. There are various variants of atomic structures but each falsified theory pertaining to this structure lead to development of new theoretical structure and framework which could be falsified if another replica suits the base of Quantum Mechanics more methodically. Keller has already mentioned that Science was the ultra-modern super-structure wherein women are treated as 'two lighter nuclei' after splitting from a heavy, unstable nucleus which can release vast amounts of energy only if they are fused into the system of scientific knowledge system as Haraway has stated that entry of women into Sciences would not help in creating new knowledge if they are not actively participating in creation of knowledge due to androcentric environment and epistemology. Even Keller has mentioned that women were not active participants. Science believes in actions and women were considered as passive recipients.

Mechanisms of pressure and force are the major propagators of scientific knowledge but scientists often lack the vision of subservient knowledge which is more powerful if they could react like the two nuclei which can produce vast amount of energy. Men consider themselves as nucleus but the scientific model cannot exist without interacting with sub-atomic particles. Science cannot deny the interactionist model completely to reinforce its objectivity. Thus, women need to enter Sciences so as to establish this interactionist model.

Lacan has already claimed that superstructure cannot exist without the basic structure. In Sciences, the basic structure is constituted by the interactionist model because if we understand the nature of the nature without exploiting it then we might engage with Science in a holistic manner and we could upgrade our knowledge by proposing sustainable solutions to our problems because nature is more powerful than what we have perceived. For instance, the natural fire which burnt more than 40% of the Amazon forests was extinguished after it rained heavily. Nature owns the power to influence energies and without understanding how energies are interacting at natural spaces, we would not be able to provide sustainable solutions. Nature does not believe in linearity unlike scientists practicing Natural Sciences. Nature has enough power to take us back to the Stone Age or Ice Age because it believes in transformation of its own nature. For believing in its transformation, we need to understand it rather than exploiting it otherwise we tend to miss on relevant perspectives which could lead to formation of theories which are inclusive in nature.

Force is a powerful word in both Natural Sciences and Social Sciences. Even feminists have articulated their reference to force as a way to absorb power and remain in that position. Force can lead to change in physical and psycho-social dynamics as Keller stated that force has led to subjugation of women in Sciences and invisibilization of their contribution of Sciences. The androcentric nature of Science has forced women to not to actively participate in creating a balanced theory in Sciences by keeping objectivity in-tact along with experiential knowledge which could actually lead to formation of alternative Sciences to address ecological issues.

4. Conclusion

Feminists have not only criticised the dualism of objectivity versus subjectivity but they have tried to incorporate new ways of understanding Sciences which could lead to formation of inclusive knowledge which is objective and is based on varied experiences and situatedness of researchers. Truth is an abstract concept. Therefore, conceptualizing truth can only lead to its partial understanding because truth is situated as well. There are multiple realities which objectivity rejects but to get closer to those multiple realities, we need new methods of research. Science has its own multiplicity which needs to be embraced for addressing ecological issues. Therefore, subjugated knowledges must be taken into consideration while studying scientific phenomenon. It is not so easy to comment on nature's nature by exploiting it because nature believes in change. Therefore, Science must accommodate itself accordingly. Simulation of energies has led to formation of universe then we cannot simply deny that women and nature lack rationality due to their nature. Tarnishing nature would lead us towards loss because nature is supreme. It can govern our motives but we do not have enough power to fight its nature even if we are using Science as a tool. Therefore, it is essential for us to maintain harmony with it.

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