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Science, Scientism and the Ideological Production of the Social Subject: Re-considering Interdisciplinarity

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Abstract

The paper attempts to reach at an understanding of the concepts of 'science' and 'scientism' as constructed and ideological concepts and how they contribute in shaping our commonsensical understanding of the body in terms of its relation to social identity and role. While attempting to expose modern science as a "constructed" discipline and ideology operating in tandem with the dominant hegemonic structures, the paper also attempts to briefly throw light on the limits of the current trend of interdisciplinary approaches and the concepts of "agency" and "critique" as well. Using a post-structuralist approach the paper therefore attempts not only to open-up the closed structures of both "science" and "scientism" but also to reach at an understanding how it goes on to affect questions of representation, reality, social and the body itself.

Keywords: science, scientism, ideology, body, subject, representation, interdisciplinarity, intra-action, agency, critique.

"The historically pervasive association between masculine and objective, more specifically between masculine and scientific, is a topic that academic critics resist talking seriously. Why is that?"

— Evelyn Fox Keller, "Gender and Science"

"What desire is at play for him or her when they do or make science, what other desire is at play when they make love: is it individualized or social?"

— Luce Irigaray, "Is the Subject of Science Sexed"

Opening up the structures: what is 'science' and 'scientism'

To begin with, one needs to realize that 'science' as a disciplinary subject— that seems to enjoy today a certain degree of autonomy, distinctness and superiority over other disciplines (especially humanities, which it casts as dealing with metaphysical illusions compared to science's promise of dealing with the "truths" of reality) in terms of its claim to certain values such as objectivity, authenticity, legitimacy, truthfulness, righteousness and exactness — can be historicized whereby its earliest roots can be traced back to what is 'marked' today as humanities (especially philosophy, literature, arts and aesthetics). To trace one small example, among many others, one can go back to the classical philosophy of Plato and Aristotle which stressed, though in a different style and manner, on distinguishing the forms of approximate and exact reasoning and set out a threefold scheme of abductive, deductive and inductive reasoning but simultaneously relied heavily on metaphysics. The word "science" (from French '*scientia*' meaning 'knowledge') was used before 19thC in a general sense to mean 'knowledge', as for example can be found in Shakespeare: "...hath not in natures mysterie more science/ Then I have in this Ring" (*All's Well*)

¹ See Raymond Williams' "Science" from his book *Keywords: A Vocabulary of Culture and Society*.

That Ends Well, Act-V, scene-iii). It was also distinguished from *conscience* in relation to knowing something theoretically (science) and knowing it with conviction and commitment (conscience). However, it was from 17thC onwards that there developed a tendency to separate it from what was called 'art' and the word 'science' came to be applied to a whole body of regular and methodological observations and propositions concerning any subject of speculation. Therefore the concept of 'speculation' was added with the general concept of 'knowledge' (i.e., 'science'). In the 18thC the crucial distinction was brought, within the general concept of 'knowledge', between *experience* and *experiment*, and between *theoretical* and *practical* knowledge, whereby the concept of 'theory' was now used not simply to mean 'speculation' but rather implied a specific type of knowledge gained through certain methodological demonstrations.

Added to these, changes in ideas of *nature* also encouraged the further specialization of ideas of method and demonstration towards the 'external world', and the conditions for the emergence of science as the theoretical and methodological study of 'nature' was then complete. This marks the moment when science started claiming its autonomous identity and separated itself from other disciplines of knowledge. It is based on this logic of a specific and specialized methodological approach of observation and calculation that science went on to draw a line of demarcation between "natural science" and "natural philosophy", where despite having the common adjectives "natural" it was the concept of what it means to be "scientific" (in relation to "scientific method" and "scientific truth") that differentiated the disciplines. Similarly, at the turn of the 20thC, there emerged a school of scientists who introduced the concept of 'logical positivism' by means of which the reality of 'real' objects was to be judged in terms of its 'verifiability' (Wittgenstein especially) and the "context" of discovery now fades away giving way to the "justification" of discovery as the central focus. Although certain scientists, such as Popper, Kuhn, Lakatos and Quine to name but only a few, have attempted repeatedly to expose the constructed character of science as a discipline², but still even today 'science' continues to hold a privileged position that not only dominates the questions of representation and reality but our thinking itself.

It becomes clear that the very concept of 'knowledge' becomes a problematic and always shifting concept, and it is these shifts in the conceptual understanding of 'knowledge' that contributed in the shifting development of the concept of 'science'. The question that emerges then is: What is 'scientism' and how is it different from 'science'? Though there is no such complete definition, nor can be, of what is 'scientism', it can be said to be a certain type of attitude, a particularly problematic way of understanding 'science', a view which sees 'science' as the *only* true and real knowledge, and an enframing of life and world itself based on such views. In other words, "scientism" can be defined as a tendency to see certifiably scientific knowledge as the only "real" knowledge and all else as mere illusions or nonsense (for the concept, domain and boundary of sense, sensible and sensibility is decided and legitimized by science and its own judgemental parameters). Some sophisticated purveyors of scientism even hold that there is not a single scientific method but nevertheless there can be found a common core at the heart of all surface-level methods that constitute science. It should be noted here that underlying this claim about "scientific method" there is another assumption—that the world just is (metaphysically) of a nature that yields itself to such methods and not to others, thus making scientific methods

² Especially, in this context, Popper's concept of the logic of "falsification" by means of which science claims its truth value and Kuhn's concept of the 'paradigm' of science emerge out as crucial developments reflecting the debates and contradictions operating within the discipline of science itself. For further details, see

not only legitimate, but necessary for real knowledge. Such tendencies therefore call for to celebrate science as a superior discipline in terms of representing questions of ‘reality’ (the concept and limits of which it decides and legitimizes itself) by comparatively presenting other disciplines as less equipped in the task. In Richard N. Williams’s words, ‘scientism’ attempts

“...to hijack science to support metaphysical commitments in which science has no particular interest, and to which it owes no particular debt. While science and scientism share an intellectual heritage, scientism has taken a turn toward an ideology that goes well beyond what science itself requires”³.

The extract therefore enables us to raise certain crucial conceptual questions: How is ‘science’ used to support certain metaphysical commitments and what are they? Is it really true that science as a disciplinary subject owes no debt to such metaphysical commitments? How is it that ‘scientism’ has taken a turn toward ideology, or, to be more precise, does ‘science’ bears any resemblance at all with ‘ideology’?

Finding links: the question of ‘science’ and the question of ‘ideology’

Regarding the last question (whether ‘science’ can be related with ‘ideology’) one needs to note, first of all, the fact that the concept of ‘ideology’, though casually associated with philosophy (particularly Marxist philosophy), had its roots actually in zoology (a branch associated with what we call “science”). Coined by Destutt de Tracy in the late 18thC, the term was intended to be a philosophical term for the ‘science of ideas’ and its use depended on a certain kind of understanding of the nature of ‘ideas’ which was broadly in line with Locke and the empiricist tradition. I have attempted already to present ‘science’ as a shifting concept, and so is the concept of ‘ideology’ which various thinkers have attempted to define differently. Raymond Williams, for example, tracing these changes, went on to define it in three aspects: as a system of beliefs characteristic of a particular class or group; as a system of illusory beliefs– false ideas or false consciousness– which can be contrasted with true or scientific knowledge; and, as the general process of the production of meanings and ideas. Similarly, Althusser decides to adopt an inductive method to define the concept of ‘ideology’ as a tool for reproduction of certain relations of production which operates by means of what he calls ‘Ideological State Apparatuses’ and ‘Repressive State Apparatuses’⁴ that contributes in transforming individuals into ‘subjects’ of dominant power structure. Defining ‘ideology’ as a system of dominating ideas and representations those are internalized and practiced by individuals and social groups, he identifies ‘ideology’ as ‘immutable’ and ‘trans-historical’ and as a process of interpellating individuals as ‘subjects’. It operates by means of a ‘consent’ that is obtained by creating a logic of ‘obviousness’ which leads us to say “That’s obvious! That’s right! That’s true!”. Zizek, on the other hand, focuses on how ‘ideology’ operates by means of crafting a logic of legitimacy. Zizek too sees

³ Ibid.(pg 3)

⁴ He introduces these concepts in his essay "Ideology and Ideological State Apparatus" where he identifies the Ideological State Apparatus as “a certain number of realities which present themselves to the immediate observer in the form of distinct and specialized institutions.” He goes further to present a list of ISA : the religious ISA (the system of the different churches), the educational ISA (the system of the different public and private ‘schools’), the family ISA, the legal ISA, the political ISA (the political system, including the different parties), the trade-union ISA, the communications ISA (press, radio and television, etc.), the cultural ISA (literature, the arts, sports, etc.). The Repressive State Apparatus functions ‘by violence’, whereas the Ideological State Apparatuses function ‘by ideology.’ So, for ‘ideology’ to function, it has to be forced upon the individual who then becomes the subject to these ideologies of the dominant class.

ideology as “false consciousness” however he focuses on how it dupes the masses into an alternate set of reality which blinds them from the power structure in operation, a process that Žizek decides to define as “ideological cynicism” that works in a similar manner to what Umberto Eco dubs “the force of the fake”⁵. While Althusser relates the concept of ‘ideology’ as class struggle, Žizek opens it up as both social and political functioning. Using Lacanian psychoanalysis he relates how ideology operates in terms of a certain distancing and asserts that any successful political ideology always allows its subjects to have and cherish a conscious distance towards its explicit ideals and prescriptions, a process he terms “ideological disidentification”. For Žizek ideologies serve to enable individuals to identify themselves with certain important and rallying political terms which he decides to call as “master signifiers”, certain terms or concepts [such as God, Nation etc] which when refer to they feel they know exactly what they mean or refer to but which may not be the case, a process he decides to define as a presence where there are “signifiers without a signified”. All these therefore clearly reflect how the concept of ‘ideology’ came to acquire, through different conceptual changes, the signification it enjoys today. I suppose one can already trace a lot of similarities with the functioning of ‘science’ itself, with the only difference that while ‘science’ is hailed as best suited to address ‘real’ problems ‘ideology’ is marked only as illusion and false-consciousness. Added to these, certain formulations by certain thinkers– such as ‘science of ideas’, ideology as something that can be contrasted with ‘scientific knowledge’, ideology as ‘trans-historical, and the concept of ‘disidentification’– lead us to re-consider and re-interrogate the concepts of “science” or “scientific knowledge”, and in relation to it, the concepts of “truth” and “reality” itself.

The privilege, autonomy and superiority that ‘science’ enjoys, is acquired by means of its construction of a definitional framework of the concept, domain and boundaries of “real” space, in relation to which it goes on to define, legitimize and limit the very concept of “social” itself. It operates, in fact, by differentiating the very concept of ‘idea’ between ‘philosophical ideas’ and ‘scientific ideas’, where the former is made to be associated with the question of ‘correct’ [‘justes’] compared to science which claims to represent ‘truth’. Although it is often heard that philosophers focus on ideas of the *Whole*, about how the things are linked to each other, about ‘totality’, the need is to realize that all these can be found also in science, the only difference lies in their methodological approach. For Althusser, such distinctions operate by means of creating “practical ideologies”, which he defines as complex formations that “shape notions-representations-images into behavior-conduct-attitude-gestures. They...govern the attitude and the concrete positions men adopt towards the real objects and real problems of their social and individual existence, and towards their history”⁶. ‘Science’, as such, can be said to be modeled after and operating as a similar ‘practical ideology’ with the only difference that it uses a certain calculative (mathematical) and detailed approach in its application whereby it not only goes on to justify its own processes and operations as “exact” reasonings, representations and solutions but also successfully hides its own constructed and illusionary nature. The ‘neighboring’ disciplines and ways of thought that operates by means of a similar structure are brought within the frontiers of the same ‘zones’ of science, and from this new relations new disciplines are born– physical chemistry, biophysics, biochemistry, biotechnology etc– which contributes in the continuous expansion of the realm of ‘science’. ‘Technology’ is a product of this particular type of application by means of which it draws a line of demarcation between application in other disciplines, between technology of the blacksmith and that of the engineer for example. It is ‘scientism’ that

⁵ The term is taken from Matthew Sharpe's formulation of it in his *Slavoj Žizek: a little piece of the real*.

⁶ See Louis Althusser's *Philosophy and the Spontaneous Philosophy of Scientists & Other Essays* (Lecture-I), pg 83-93.

presents technology and what it has produced in only positive terms and are even used to create moral issues such as decisions regarding whether to prolong life or to terminate life before birth by means of technology. Thus, both science and how we understand it have real effects on many aspects of our lives even though we do not usually think about science in this way. In his influential essay “The Question Concerning Technology”, Martin Heidegger enables us to comprehend how a specific type of utilitarian view of what it means to be effective technology subtly invites us to entertain the possibility that all problems— including distinctly human problems— are merely technological problems. In a world dominated by technology and intoxicated by technological solutions of practical problems, technology therefore becomes a kind of ultimate pragmatism, as if the sweeping metaphor of our ‘scientific’ age.

However, it is crucial to distinguish between ‘science’ and ‘scientism’ so as to be aware that criticism of scientism is not a criticism of science. Aristotle in his *Nicomachean Ethics* reminds us that in our reasonings (i.e., science) we can achieve “such clearness as the subject matter admits; for it would be...wrong to expect the same degree of accuracy in all reasonings”. However it is not the nature of the world and its phenomena that determine whether science is possible; nor does science require that the world have any particular nature. Paul Feyerabend reminds us that the rigid metaphysical requirements inherent to scientism are not required by science:

“Is science the best type of knowledge we possess, or is it just the most influential?...Science is not one thing, it is many; it is not closed, but open to new approaches. Objections to novelty and to alternatives come from particular groups with vested interests, not from science as a whole”⁷.

We can say then that science by itself is not tied to or dependent upon totalizing or universalizing claims, but rather it is scientism that uses science as a tool to create and justify such totalizing claims and as such scientism cannot be simply taken as a straightforward confidence in a generic science, it remains heavily relied on totalizing views, universalizing claims and a metaphysical commitment. Foucault and a coterie of post-structuralist thinkers have variously attempted to make us aware how all forms of knowledge remain always already linked with dominant structures of power, and similarly, when seen through the lens of post-structuralism, ‘science’ too cannot be seen as “innocent”; in fact, in the Post- Enlightenment, rational, modern world it becomes the dominant tool for shaping and controlling the masses in terms of the hegemonic structures. This ‘scientific ideology’ or the ideology of the scientists operates by means of creating firstly a ‘fundamental gap’, a ‘lack’, or a mystery within nature and universe so as to be able to discover it, fill it and map it within its own definable limits. It assumes its authority and hegemonic character therefore by means of obtaining our *consent*. Like ‘culture’, which relates to the norms of behavior dominant in a society, the teaching of the sciences therefore also appears as a site of similar ‘cultural’ training although it takes a more subtle, infinitely less visible form. Science, especially biology and pathology, for example, formed the crucial tool for addressing the question of homosexuality in the 19thC by means of creating and legitimizing a the binaries of normal/abnormal, natural/unnatural. At the same time, production of scientific knowledges also remains equally dependent on dominant socio-political discourses whereby concepts of “development” and “rationalization” of society becomes inextricably linked to the institutionalization of scientific and technological developments. Similarly, Abha Sur notes in the “Introduction” to her book *Dispersed Radiance*, how, in the Indian context (specifically in relation

⁷ Paul Feyerabend (1995) “History of the philosophy of science”, pg 809.

to C.V.Raman and Meghnad Saha), a confluence of caste system, nationalism, gender issues and colonial circumstances affect the production, organization and examination of the scientific knowledges in terms of which one is to be accepted as authentic and which one to be rejected as non-sense. The 'context' of discovery therefore becomes equally significant behind the production of 'scientific' knowledges, and as such the concept of 'objectivity' emerges out as one of those tricky terms which are used in certain specific contexts in certain specific ways for certain specific results.

Science and the production of the 'social' body

'Science' as such becomes an ideological weapon of 'scientism' in the production of 'docile' bodies that is marked as 'social', 'normal', 'productive', 'natural', and so on. This marking and subjectification⁸ of bodies operates by the production of space itself as empty, vacuum or mystery which science goes on to identify, fill and reveal. The project of producing "social" space therefore operates by means of creating and separating, first of all, the "imagined" and "real" spaces, whereby every "real" space is after all a product of the "imagined" space but is presented in such a manner that we believe them to be separate. Therefore, the repeated return to Baconian emphasis on detailed study of nature and casting off of 'the darkness of antiquity', or the Cartesian split can be seen as a product of scientism which attempts to search for 'facts' to prove 'science' and a certain established scientific-method as best knowledge, however misappropriated and forceful such interpretations, emphasis and citing may be. In fact, the Cartesian mind/body dualism, in tandem with the nature/culture and matter/form binaries, had always been one of the most emphasized 'fact' that had been repeatedly used to create and justify a definitional framework of what is to be taken as "social"⁹. The bio-medical sciences of the late 18thC, for example, started using the concept of mind/body separation as a judgemental parameter for defining and limiting one's position in the 'social' space by developing a model of health and illness based on lifestyle and social roles. Biology, physiology and medical sciences came to define and justify the 'social' identities and roles of both men and women, however with different implications, whereby a tight linkage was assumed between jobs performed in the social arena (for women, the production, suckling and care of children, the creation of a natural morality through family life) and health and disease. Similarly, concepts such as 'temperament', 'habit', 'constitution' and 'sensibility' were bridged and seen as products of biological, psychological and social interactions, whereby these were seen as affecting the nervous system. Further, the nervous system was itself seen as a physiological system in itself which, because it brought together physical and mental dimensions of human beings, expressed most precisely the total state of the individual, especially with respect to the impact of social changes. All these views emerge out, on closer inspection, to be apparatuses operating in the legitimization and continuous re-production of patriarchy and its obligatory structure of heterosexuality by inscribing every individual body with a specific 'social'

⁸ As Foucault cautions us, power must not be thought of as negative, as repression, domination, or inhibition; on the contrary, it must always be seen as a "making possible". 'Discourse', in this sense, enables us to understand how society operates in forming and shaping humans as "subjects"; 'power' through its discursive and institutional relays "subjects" us and makes us into "subjects", it "subjects" us to the rule of the dominant disciplines which are empowered in our society and which regulate its possibilities for human freedom and "subjugates" us. By "subjectification" Foucault refers to this entire process of transforming humans into "subjects".

⁹ For further details, see Sara Heinamaa's "The Soul-Body Union and Sexual Difference: From Descartes to Merleau-Ponty and Beauvoir" and "Woman – nature, product, style? Rethinking the foundations of feminist philosophy of science", and Caroline Bynum's essay "Why All the Fuss About the Body? A Medievalist's Perspective".

identity and role. Women, therefore, were defined as highly *sensible* (in the sense of sensitive, or even sensitized) like children, and more passionate than men due to ‘the great mobility of their fibres, especially those in the uterus; hence their irritability, and suffering from vapours’¹⁰. This peculiar sensibility of women was seen as contributing to their greater life expectancy, a view which Barthez, a prominent 18th C French physician, for example, attributed to their own body itself:

“...the softness and flexibility of the tissue of their fibres... their periodic evacuations... each month, renew their blood, and re-establish their usual freshness...another important cause of women living longer than men is that they are usually more accustomed to suffering infirmities, or to experiencing miseries in life”¹¹.

Their individual body parts were emphasized separately for establishing different 'facts' about their 'social' existence. For example, one view was that the separation of their hips itself makes walking more painful for women and therefore makes them always feel weak and dependent¹². Ludmilla Jordanova notes that while the uterus and ovaries interested nineteenth-century gynaecologists, the breast caught the attention of the eighteenth-century medical practitioners, who were concerned with moral philosophy and ethics, thereby defining women's role in the family through its association with the suckling of babies and limiting their identity only within the private space¹³.

Science therefore had always been a powerful ideological weapon in establishing and justifying men as the potential members of the broadest social and cultural groups by comparatively placing women within the private space of home and family: be it by presenting women as the passive object of study by the (male) scientists, by relating female with nature and vice versa (as exemplified in Louis-Ernest Barrias' sculpture “Nature Unveiling Herself Before Science”¹⁴), by presenting male “sperm” as active and female “egg” as passively waiting for sperm to give life to itself¹⁵, or by regulating sexuality in terms of privileging male spermatoc economy and heterosexuality and marking homosexuality as perversity¹⁶. When seen in this light, the question of “objectivity” too emerges as a problematic concept in relation to the concepts of “scientific duty” and “empirical exactitude”. It was mainly in the 19th century that concepts like verifiability, objectivity, experimentation, computation, and so on were introduced within the concept of 'knowledge' with the clear aim of “mapping” reality and knowledge itself within certain definitional frameworks which enables the “making up”¹⁷ of a certain type of *known* or *knowable* subjects. In a similar manner a logic self-elimination came to be popularized in the 19thC as a

¹⁰ Ibid.

¹¹ From Barthez's *Nouveaux Elements de la Science de l'Homme*, as cited by Jordanova in “Natural Facts: A Historical Perspective on Science and Sexuality” (pg 161).

¹² From “Natural Facts: A Historical Perspective on Science and Sexuality” (pg 161-162).

¹³ Ibid. (pg 162).

¹⁴ From Lorraine Daston's essay “The Scientific Self”, pg 244.

¹⁵ For further details, see Emily Martin's essay “The Egg and the Sperm: How Science has Constructed a Romance Based on Stereotypical Male-Female Roles”.

¹⁶ Richard von Krafft-Ebing's pathological analysis of sexual perversity, for example, formulated an entire pathological definition of perversion whereby he defined that “...every expression of it [sexual instinct] that does not correspond with the purpose of nature — i.e. propagation— must be regarded as perverse...The aim and ideal of woman, even when she is sunk in the mire of vice, is, and remains, marriage”. For further details, see *Psychopathia Sexualis, With Reference to the Antipathic Sexual Instinct*.

¹⁷ In his essay “Making Up People” Ian Hacking notes how a concept of perversion as disease was constructed so as to “map” individuals in terms of certain dynamic nominalism.

parameter for the production of objective, scientific “knowledge”¹⁸. From all these it becomes clear that science as a discipline was not responsible directly in shaping the body according to the dominant hegemonic values but rather it was scientism that used the logic of science to produce such specific knowledges about the body. As such by means of a critique of science and scientism the very meaning of what it is to be a human being, our lives and our actions, the possibility of morality, and the essence of our human relatedness, are all called into question.

'Critique' or 'Critical': Towards a re-presentation of the concept of interdisciplinarity

When Irigaray uses the term “scientific imperialism”¹⁹ she clearly reflects on the totalizing tendencies inherent in science as a discipline. The “subjectification” that science performs operates not by repression, domination or inhibition but rather by a certain “making possible”, a certain type of enabling, and a claim to *know* better. Here’s an extract from Audre Lorde's account of her own experience of breast cancer which can illustrate it better:

“(The doctors said) Lots of blood vessels in it means it’s most likely malignant. Lets cut you open right now and see what we can do about it. Wait a minute, I said. I need to...see what’s going on inside myself first...that simple claim to my body’s own processes elicited such an attack response from a reputable specialist In Liver Tumors...What he said to me was, “If you do not do exactly what I tell you to do right now without questions you are going to die a horrible death”...I felt the battle lines being drawn up within my own body”²⁰

The extract clearly reflects how the body becomes the site where competing authorities, power-structures, discourses compete for control where sometimes even the person, whose body it is, is denied claim over his/her own body. This experience leads Lorde to realize how bodies are turned into commodities by dominant power-structures, and she links that, “Battling racism and battling heterosexism and battling apartheid share the same urgency inside me as battling cancer...And power is relative”²¹.

Feminist criticism of ‘science’ and ‘scientism’ has attempted repeatedly and differently to claim a voice by exposing this constructed structure of its claim to truth and reality. “Science” operates, as Haraway puts it, by a logic of “reductionism”²² that depends on a politics of “vision” or “gaze” whereby by means of science’s own technological “eyes” it plays the “god-trick” of an infinite vision. The need therefore is not only to re-claim that body of one’s own but also of re-creating, re-establishing new ways of re-claiming and re-presenting beyond the totalizing, universalizing phallogocentrism of scientism. However, the questions that emerge then are: How

¹⁸ In the essay “Objectivity and the Escape from Perspective” Lorraine Daston notes how the very concept of “Objectivity” is a confused one, which once was used to refer to metaphysics, to methods, and to morals, but comes to designate all that is empirical (or, more narrowly, the factual) and includes a logic of “impartiality-unto-self-effacement”.

¹⁹ From Luce Irigaray’s essay “Is the Subject of Science Sexed?” (pg 75).

²⁰ From Audre Lorde's “A Burst of Light: Living with Cancer” (pg 150).

²¹ Ibid. (pg 152).

²² Haraway’s defines it as a search for translation, convertibility, mobility of meanings, and universality, and asserts that feminist politics should therefore focus on “partial perspectives” and “situated knowledges” which would both subvert the totalization of science’s single vision and address the question of difference within feminism (and not promising an ideologically common oneness of “equality”) while simultaneously not reducing itself simply to relativism for “Relativism and totalization are both ‘god-tricks’ promising vision from everywhere and nowhere equally and fully”. For further details see her essay “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective” (pg 575- 580).

can one re-claim and re-present the 'body' independent of the phallogocentric structures? Is such an approach or stance possible at all? What could be the possible dangers of any attempt at 'newness' or limits of 'critique'? The need is to realize, as Bruno Latour suggests in his article "Why has critique run out of steam? From Matters of Facts to Matters of Concern", that 'critique' too can become a tool that keeps getting used out of habit and is no longer needed for the kinds of situation we now face. Instead of 'critique' therefore he suggests the concept of being 'critical', which he develops from Alan Turning's "critical mass" (that shows how a single neutron enters a critical sample of nuclear material which produces a branching chain reaction that explodes with ideas). Using this idea, Karen Barad introduces his concept of "diffractive" reading whereby he suggests, rather than searching for a difference, to search for "patterns of differences that make a difference"²³. As such, it becomes clear that even the concept of "differece" too can fall within the totalizing structures of the same, that there are continuously deferring differences even within the concept of a difference. In this sense it becomes crucial therefore to re-consider and become 'critical' of the concept of interdisciplinarity itself.

The concept of interdisciplinarity has emerged out in the recent years to be promising to come out of the limits, rigidity and violence of exclusions of disciplinary approaches. But the question still emerges, is such approach really able in all contexts to fulfill its promised and cherished ideal? On closer analysis, it emerges out that even within such declared interdisciplinary approaches there always runs the risk of viewing the disciplines as absolutely separate and independent entities which, by certain conceptual and methodological approaches, are brought together towards a synthesis. However, when seen through the lens of relational ontology even the different disciplines of study emerge out as always already inextricably entangled with each, something that I have been attempting to assert from the very first section of this paper. As such the need is to realize that even within interdisciplinary approaches the crucial task remains not simply to search for inter-actions of disciplines but also the intra-actions, and as such to search also for an intra-disciplinarity. Another important issue that I want to assert is that maintaining disciplinary boundaries and separateness not only limits the concept of 'knowledge' produced but also the "subject" practicing it. Irigaray provides us an excellent example when she asserts that

"while he (the scientist) manipulates nature, using it, exploiting it, he is forgetting that he, too, is *within* nature– that he is still part of the physical world and not just place before phenomena...He progresses in accordance with an objective method which would provide a shelter from any instability, any "change"...He is living in fear of sterilizing anything tending toward disequilibrium, however necessary these disequilibrium may be for happening upon a new horizon of discovery"²⁴

Regarding the question whether finding a space or ground *outside* the totalizing phallogocentric structures is possible at all, I don't feel that there can be any such position as absolutely independent and outside the dominant structure(s). As such the politics for me, similar to Butler's formulations, verges on disrupting the same totalizing structure(s) from *within* rather than searching for an outside position or hoping for an utopian ideal future; if the all-encopassing-totalization of 'science' is all we have today then the need also is to work from *within* its own structure, for, to put it in Butler's words, "The critique of the subject is not a negation or repudiation of the subject, but, rather a way of interrogating its construction as a pre-given or

²³ For further details see "Matter feels, converses, suffers, desires, yearns and remembers: Interview with Karen Barad" in Rick Dolphijn and Iris van der Tuin (eds.), *New Materialism: Interviews & Cartographies*

²⁴ From Luce Irigaray's essay "Is the Subject of Science Sexed?" (pg 83).

foundationalist premise”²⁵. Besides, what is more important is a constant re-consideration of both the potentials as well as limits of the tools, vocabulary, methods and approaches that we decide to use in our assertions, and the same is applicable even for the concepts of discipline, interdisciplinarity, critique and subject itself. As such it calls for a re-consideration of the concept of “agency” as well in relation to the subject that does or it feels it does. “Agency” for me is not a thing that is possessed, it not a property of an individual, but to be asserted only through enactment. To use Karen Barad's words,

“agency is not about choice in any liberal humanist sense...agency is about response-ability...to attend to power imbalances. Agency is about possibilities...”²⁶

What I am suggesting should not be confused with any impossible search of an absolute other space beyond the 'limits' of the existing signifying structures, but rather to extend the 'limits' of signification itself. The need is to be “critical” even with any attempt of “critique” so as to extend the concept, functioning and livability of “critique” itself beyond the existing norms and parameters, however with the awareness that any such attempt remains always already partial, fragmentary and incomplete; it may appear initially impossible or utopian but the need is to begin with such impossibility (that is to extend the limits of possibility and think-ability itself), for any newness, alterity and change emerges always from questioning and not accepting passively what is ‘given’.

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²⁵ From Judith Butler's essay “Contingent Foundations”

²⁶ “Matter feels, converses, suffers, desires, yearns and remembers: Interview with Karen Barad” in Rick Dolphijn and Iris van der Tuin (eds.), *New Materialism: Interviews & Cartographies*.

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