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A Foucauldian Critique of Scientific Naturalism: 'Docile Minds'

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Abstract

My aim in this paper is to articulate and challenge a Foucauldian critique of scientific naturalism, and, in particular, a Foucauldian critique of the nomothetic framework underlying the Placement Problem. What I hope to achieve is to bring Foucauldian post-structuralist theory into the conversation concerning scientific naturalism and the Placement Problem. My Foucauldian post-structuralist critique of scientific naturalism questions the relations between our society's imbrication of economic-political power structures and knowledge in such a way that also effects some constructive critical alignment between Foucault and Habermas, helping to undermine the traditional view of their respective social critiques as incompatible. First, I will outline a brief genealogical backstory for the rise of scientific naturalism, and I will then reconstruct the Placement Problem. In the second part of the paper, I introduce Foucault's notion of *pouvoir-savoir* ('power-knowledge'), namely his account of the interconnection between power and knowledge. I then go on to articulate the Foucauldian critique of scientific naturalism by arguing that the levelling nature of nomothetic rationality and its conservative naturalistic vocabulary involves *regulative discourse*: anything that resists *placeability/locatability* is labelled 'odd'. By being thus *visibly marked*, 'odd' phenomena become 'queer' phenomena, which then become 'problematic' phenomena. They are, thereby, construed in need of discipline (and even punishment). Understood in this Foucauldian way, the most pressing problem with the disciplinary framework of scientific naturalism is that the erasure of the *sui generis* features of the normative space of reasons amounts to a debilitating variety of alienation in which humanity is estranged from its *pluralist* matrix of sense-making practices. Thus, scientific naturalist disciplinarity produces subjected and practised minds, 'docile' minds.

Keywords

I(a)

For Occidental cultural theory, the age of modernity is the near-totalising prioritisation of and confidence in the authority of reason. In effect, the guiding principle of the Enlightenment was the expectation that the emancipation of natural and normative sciences from religion, to quote

Habermas, "would promote only the control of natural forces but also understanding of the world and of the self, moral progress, the justice of institutions and even the happiness of human beings".[1] Given the macrosociological dimension and scope of the project of the Enlightenment, Weber famously argued that modernity involves the interrelation of *rationalisation* and *disenchantment*. The process of rationalisation involves humanity's attempt to make all features of reality intelligible, so much so that the cognitive desire to make sense of things invariably morphs into the "desire to increase mastery, control, over every aspect of the world".[2] However, the general process of the rationalisation of the world crucially involves increased exercises of discursive sub-processes: developments in 'substantive rationality' involve rendering values traditionally associated with religious forms of life and value-systems more coherent; and developments in 'formal rationality' involve methods and practices that increasingly codify and quantify attitudes and institutions.

Under the Weberian framework, there are particular kinds of action necessarily associated with formal rationality and substantive rationality respectively: instrumental rational (*zweckrational*) action involves using discursive reason for the sake of achieving some particular goal. Instrumental/formal reason aims at controlling/dominating the objects of one's concern. However, by contrast, value-rational (*wertrational*) action is not modelled on any kind of subject-object relationship and means-end framework. This is because value-rational action is the variety of activity discursively constituted by communicative reason, to use Habermasian terminology. Since the function of substantive rationality is to bring about the *intelligibility* of normative concepts such as justice and goodness under a coherent and *rationally* justified system, value-rational action is directed at ends-in-themselves and to realising an intersubjective relationship between agents as much as possible.

The relationship between *drives* for substantive rational action and *drives* for instrumental/formal action invariably causes friction *within* reason, to the extent that the question for modernity would not be whether or not reason will be sovereign but *which pattern of rationality and action would emerge hegemonic in the general process of rationalisation*. For Weber, the task of sociology is to explore why instrumental/formal rationality has come to dominate in modern Western society, and why, by consequence, has nature been disenchanted (*entzaubert*) and culture faces "extirpation".[3] Construing modernity as eventually culminating in a state of "mechanised petrification"[4] in an "iron cage" (*stahlhartes Gehäuse*),[5] Weber articulates the connection between rationalisation and disenchantment in terms of a tragic dialectic of religion.

Briefly put, pre-historical human beings, in an effort to satisfy non-biological means of self-preservation, developed fetishist religious practices. Primitive societies often tended to imbue ordinary objects with spiritual and magical significance under a form of polytheism, so much so that nature was enchanted as the living embodiment of divine beings. However, over the course of the development of societal psychology and the ways in which human societies considered how to satisfy their *cura animarum*, the fetishist framework gradually gave way to intellectualised monotheistic religions underpinning the Abrahamic faiths. "Judaism, Christianity and Islam … sought to render suffering comprehensible".[6] This turn to rationalisation, as Weber put it, was motivated by showing that the world "in its totality is, could, and should somehow be a meaningful "cosmos"".[7]

With Christianity at least, the kind of systematisation of doctrine and the challenges raised to Catholicism by the Protestant movement during and since the Reformation establish the ironic grounds for the progressive secularisation of modern Western society. Although the rise of institutionalised religion and its correlative theological schema led to the abandonment of primitive fetishism, the disenchantment of the world is effected by the power of Protestantism and Puritanism, which did not simply wish to reject papal authority and revise Christian theology by rejecting divine mysteries. These movements also wished to construe religion as *allied* with formal reason and not merely residing within the bounds of sense: explanation-bearers were no longer an esoteric group of priests endowed with magical capacities for disclosing "mysterious incalculable forces".[8]

Rather, as a result of the spectacular and rapid expansions in modern scientific knowledge and inquiry, that title now belonged to those engaging in formalised and instrumentally rationalised practices. The model of scientific explanation that had initially been articulated by Laplace and refined by the German Materialists during the mid-1800s had enabled instrumental reason to achieve hegemony due to how the formalisation and mathematisation of the complexities in nature were being met with enthusiastic acclaim.[9] With Helmholtz's landmark 1847 monograph, *Über die Erhaltung der Kraft*, leading from the front, one explained natural events and processes by subsuming them under general laws of mechanics, specifically in the reduction of all changes in the physical world down to the movements of atoms. Nature is thus conceived as a refined aggregate of physical objects and processes, following strict universal and necessary laws. Anything that is natural must conform to these laws. For Helmholtz, as Michael Friedman writes, "… the possibility of reducing all of the appearances of nature to this basis, in accordance with the law of causality, is then 'the

condition for the complete conceptualisability of nature' [*Die Bedingung der vollständigen Begreiflichkeit der Natur*]".[10]

If modern advances in physics and chemistry not already proclaimed scientific nomothetic rationalisation as the sovereign of the world, the revolutionary impact of Darwinism guaranteed the disenchantment of the world by construing humanity in purely causal and naturalistic vocabulary with traditional onto-theological concepts and categorisations consigned out of the scientific image. As Windelband elegantly wrote:

> Transcending the limited domain of phenomena to which their original fruitful application was restricted, these [nomothetic] methods have been generalised as much as possible in the attempt to comprehend the entire circumference of human knowledge.[11]

Importantly, one of the legacies of modernity, typified by those significant breakthroughs in natural scientific inquiry, is the way in which philosophy's self-image – at least in the Anglo-American analytic tradition – has increasingly become naturalistic: *the image of the world provided by the natural sciences is all there is to the world*.[12] Naturalism has metaphysical *and* methodological dimensions: (i) at the most fundamental ontological level, reality is just what the natural sciences deem it to be;[13] (ii) our ways of intelligibly articulating reality, the ways in which we make sense of things, are ultimately justifiable only by the methods and practices of the *Naturwissenschaften*. The conjunction of (i) and (ii) is often referred to as 'scientific naturalism'.[14] Such was the effect of formal reason's transformation of inquiry (and social relations and practices) that the Laplacian model of scientific explanation became the foundational schema of, what Anglo-American philosophers tend to call, the 'Placement Problem'.

I(b)

For Huw Price, the Placement Problem amounts to the following:[15]

> If all reality is ultimately natural reality, how are we to "place" moral facts, mathematical facts, meaning facts, and so on? How are we to locate topics of these kinds within a naturalistic framework, thus conceived? In cases of this kind, we seemed to be faced with a choice between forcing the topic concerned into a category which for one reason or another seems ill-shaped to contain it, or regarding it as at best second-rate-not a genuine area of fact or knowledge.[16]

The Placement Problem can be formulated and reconstructed in this manner:

1. All reality is ultimately natural reality.
2. Whatever one wishes to admit into natural reality must be placed in natural reality.
3. *Modality, meaning, universals, moral, epistemic and aesthetic norms, consciousness, self-consciousness, and intentionality, and so on* do not seem admissible into natural reality.
4. Therefore, if they are to be placed in nature, they must be forced into a category that does not seem appropriate for their specific characters; and if they cannot be placed in nature, then they must be either dismissed as *non-genuine* phenomena, or at best regarded as *parasitic* second-rate phenomena.

The Placement Problem problematises where phenomena such as norms and intentionality might 'fit' within the world described by physics, chemistry, and biology. Why modality, meaning, universals, moral, epistemic and aesthetic norms, consciousness, self-consciousness, and intentionality, and so on are *problematised* here is principally because their status as central concepts of the *manifest* image's web of belief means there is invariably *foundational* friction between them and the *mathematisable and quantifiable* features of the *scientific* image. Such philosophical problematisation can be most clearly evidenced (at a general level) in our struggles to balance the naturalistic drive with our default commitment to phenomena such as first-person intentional states, reasons, and meaning, which *eo ipso* seem to *radically* differ from leptons, quarks, and quantum fields. In many respects, first-person intentional states, etc. are integral parts of the manifest image of the world, a humanistic perspective indispensable for human beings *qua* inquirers. The subsequent situation, then, is one in which the conflict between the naturalistic drive and the humanistic drive gives rise to a fundamental *aporia*, "the problem of the modern episteme".[17] As John McDowell puts it:[18]

> Modern science understands its subject matter in a way that threatens, at least, to leave it disenchanted, as Weber put the point in an image that has become a commonplace. The image marks a contrast between two kinds of intelligibility: the kind that is sought by (as we call it) natural science ["the kind we find in a phenomenon when we see it as governed by natural law"] and the kind we find in something when we place it in relation to other occupants of "the logical space of reasons" ["the kind of intelligibility that is proper to meaning"].[19]

In recent years, the Placement Problem has been critiqued by philosophers of either (i) a Hegelian inclination, who try to dissolve the Placement Problem by articulating *how it rests on*

the non-dialectical framework of Verstand (as opposed to the dialectical framework of Vernunft);[19] or (ii) a (neo-)Kantian inclination, who try to dissolve the Placement Problem by showing how *it is based on presuppositions that fail to underpin different forms of experience and (therefore) different ways of knowing*;[20] or (iii) a Husserlian inclination, who try to dissolve the Placement Problem using the perspective of *transcendental phenomenology*;[21] or (iv) a Wittgensteinian inclination, who try to dissolve the Placement Problem by showing how *it distorts the relationship between grammar and experience, conflating saying and showing*, to the extent "the problems of life have still not been touched at all" (Wittgenstein, *Tractatus*, 6.52);[22] or (v) a left-wing Sellarsian inclination, who try to dissolve the Placement Problem by maintaining that *normative categories (such as persons) are conceptually irreducible to ideal scientific image kinds, because normative categories are not in the business of describing and explaining in the first place*;[23] or (vi) a broadly pluralist realist inclination, who try to dissolve the Placement Problem by *relaxing the notion of nature in such a way that removes the spectre of reduction or elimination*;[24] or (vii) a Rortian neopragmatist inclination, who try to dissolve the Placement Problem by revealing *how it is produced by representationalist, rather than expressivist, grammar, namely the idea that semantics and our discursive vocabulary involve a mirroring word-object relationship*.[25]

In what follows, I shall develop a Foucauldian critique of the nomothetic framework underlying the Placement Problem. However, as far as I am aware, there has been no articulation of a *post-structuralist* response to the Placement Problem. This may be partly because of different vocabularies, so that post-structuralist worries about scientific naturalism are not *typically couched in terms of the Placement Problem explicitly*. While post-structuralists, by and large, have *general* worries about scientific naturalism, and one source of such worries would be a Foucauldian suspicion about the imbrication of power and knowledge so that the natural sciences cannot ever possibly be value-neutral in the first place, what is distinctive here is that I extend that suspicion to *scientific naturalism as a philosophical project*. I now wish to first introduce Foucault's notion of *pouvoir-savoir* ('power-knowledge'), namely his account of the interconnection between power and knowledge.

II(a)

Foucault contends that modernity principally involves a complex, subtle, fluid, and dynamic *melange* of epistemic practices and power relations:

> The working hypothesis is this: power relations (together with the struggles that traverse them or the institutions that maintain them) do not simply play a facilitating or obstructing role with respect to knowledge; they do not merely encourage or stimulate it, distort or restrict it; power and knowledge are not bound to each other solely through the action of interests and ideologies; so the problem is not just to determine how power subordinates knowledge and makes it serve its ends or how it superimposes itself on it, imposing ideological contents and limitations. No knowledge is formed without a system of communication, registration, accumulation, and displacement that is in itself a form of power, linked in its existence and its functioning to other forms of power. No power, on the other hand, is exercised without the extraction, appropriation, distribution, or restraint of a knowledge. At this level there is not knowledge [*connaissance*] on one side and society on the other, or science and the state, but the basic forms of "power-knowledge" [*pouvoir-savoir*]. (Foucault, *Essential Works, Volume 1*, 17)

> We should admit, rather, that power produces knowledge (and not simply by encouraging it because it serves power or by applying it because it is useful); that power and knowledge directly imply one another; that there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations. These "power-knowledge relations" are to be analysed, therefore, not on the basis of a subject of knowledge who is or is not free in relation to the power system; but, on the contrary, the subject who knows, the objects to be known, and the modalities of knowledge must be regarded as so many effects of these fundamental implications of power-knowledge and their historical transformations. In short, it is not the activity of the subject of knowledge that produces a corpus of knowledge, useful or resistant to power, but power-knowledge, the processes and struggles that traverse it and of which it is made up, that determines the forms and possible domains of knowledge. (Foucault, *Foucault Reader*, 176)

For Foucault, there is no *vertical* relationship between discursive practices and power relational structures governing *all* aspects of society – there is neither a 'top-down' nor a 'bottom-up' direction of logical travel.[26] *Power and knowledge are reciprocally sustaining*, to the extent that knowledge-acquisition enables exercises of control, and the exercise of control enables knowledge-acquisition. There is a "mutual enwrapping, interaction and interdependence of power and knowledge".[27] As Johanna Oskala elegantly puts it, "[i]t is not a question of power relations presenting a new level or a simple addition to previous analyses of discursive practices, but rather that the idea of the fundamental entanglement of power and knowledge, power/knowledge, becomes central: knowledge and power are intrinsically tied together, they condition each other and cannot be understood independently of each other".[28]

In *Discipline and Punish*, power-knowledge is associated with the particular change to 'discursive formations' by the evolution of *disciplinary* institutions, such as asylums, clinics, schools, hospitals, factories, and prisons, which simultaneously enabled the possibility of establishing new, more detailed types of knowledge *and* new social norms, new forms of control. Foucault articulates a genealogical explanation of European approaches to punishment, starting from 'banishment' societies (Greek society), through 'redemption' societies, 'marking'

societies (Western societies at the end of the Middle Ages), to 'confinement' societies since the end of the 18th century. The great reforms of the European penal system (1780-1820) in conjunction with the emergence and eventual ascendency of capitalism usher a move away from physically violent punishment to more enlightened forms of punishment. *The primary function of modern disciplinary systems is not revenge, but subtle educative rectification of abnormal conduct*:

> Disciplinary punishment has the function of reducing gaps. It must therefore be essentially corrective … [I]t is not so much the vengeance of an outraged law as its repetition, its reduplicated insistence. So much so that the corrective effect expected of it involves only incidentally expiation and repentance; it is obtained directly through the mechanics of a training. (Foucault, *Discipline and Punish*, 179-80)

For Foucault, modern disciplinary society has three primary techniques of control: (i) *hierarchical observation (surveillance)*, (ii) *normalising judgement*, (iii) *examination*:

> [disciplinary power] imposes on those whom it subjects a principle of compulsory visibility. In discipline, it is the subjects who have to be seen. Their visibility assures the hold of the power that is exercised over them. It is the fact of being constantly seen, of being able always to be seen, that maintains the disciplined individual in his subjection. (Foucault, *Discipline and Punish*, 187)

> The perpetual penality that traverses all points and supervises every instant in the disciplinary institutions compares, differentiates, hierarchises, homogenises, excludes. In short, it normalises … In a sense, the power of normalisation imposes homogeneity; but it individualises by making it possible to measure gaps, to determine levels, to fix specialities and to render the differences useful by fitting them one to another. (Foucault, *Discipline and Punish*, 183; 184)

> The examination combines the techniques of an observing hierarchy and those of a normalising judgement. It is a normalising gaze, a surveillance that makes it possible to qualify, to classify and to punish. It establishes over individuals a visibility through which one differentiates them and judges them. That is why, in all the mechanisms of discipline, the examination is highly ritualised. In it are combined the ceremony of power and the form of the experiment, the deployment of force and the establishment of truth … And the examination is the technique by which power, instead of emitting the signs of its potency, instead of imposing its mark on its subjects, holds them in a mechanism of objectification. In this space of domination, disciplinary power manifests its potency, essentially, by arranging objects. The examination is, as it were, the ceremony of this objectification. (Foucault, *Discipline and Punish*, 184; 187)

In this manner, *pouvoir-savoir* – the development and deployment of regulative discourse and disciplinary power –, to quote Joseph Rouse, produces "[a] more extensive and finer-grained knowledge [enabling] a more continuous and pervasive control of what people do, which in turn offers further possibilities for more intrusive inquiry and disclosure".[29]

II(b)

As previously stated, my aim in this paper is to articulate a Foucauldian critique of scientific naturalism by arguing that the nomothetic framework underlying the Placement Problem involves regulative discourse. My Foucauldian post-structuralist critique of scientific naturalism thus "… questions the relations between our society's economic and political structures and knowledge (not in its true and untrue contents but in its "power-knowledge" functions)".[30] However, the following from Foucault *himself* seems to cast doubt over whether genealogies of *pouvoir-savoir* might extend beyond the *human* sciences, *to the extent that a Foucauldian critique of scientific naturalism is a non-starter*:

> if, concerning a science like theoretical physics or organic chemistry, one poses the problem of its relations with the political and economic structures of society, isn't one posing an excessively complicated question? Doesn't one set the threshold of possible explanations impossibly high? … Couldn't the interweaving of effects of power and knowledge be grasped with greater certainty in the case of a science as 'dubious' as psychiatry? (Foucault, *Power/Knowledge*, 109)

In response, I would contend that it would be arbitrary for Foucault to maintain that regulative discourse and the interweaving of effects of power and knowledge could *only* be grasped with confidence in the case of 'dubious' sciences. For, scientific discourse itself produces and reproduces norms used by socio-political and economic discursive formations and institutions; and socio-political and economic discursive formations and institutions produce and reproduce norms used by scientific discourse. To unpack this in some detail, I think it would be particularly helpful to adopt a *Habermasian-Foucauldian framework that sketches how scientism can be conceived of as a partner-concept of capitalism*, "with a view to discovering the social basis for the norms that govern [the natural sciences'] privileged sort of truth and objectivity".[31] I propose that questioning and uncovering the relations between our society's imbrication of economic-political power structures and knowledge in this manner effects some *constructive critical alignment* between Foucault and Habermas, helping to undermine the traditional view of their respective social critiques as incompatible.[32] For, as David Ingram correctly notes, "[l]ike Foucault, Habermas deplores the extent to which dividing practices and hierarchies of knowledge undermine persons' critical aptitudes".[33]

Scientism can be conceived of as an ideological partner concept of capitalism, not only by noticing how both scientistic varieties of naturalism and increasingly unfettered forms of market capitalism are *historically* paralleling one another, but also by noticing how scientism

and capitalism are *different yet logically bound instantiations of formal reason*: scientistic varieties of naturalism are typified by systematic practices of nomothetic reason aimed at subsuming phenomena under the laws of fundamental physics;[34] capitalism is typified by systematic practices of strategic reason aimed at subsuming phenomena under the commodity form. Conceived in this way, one can see the analogous relationship between the *colonisation of the lifeworld* (neoliberal capitalism) and the *colonisation of the normative space of reasons* (scientism):

Colonisation of the Lifeworld	Colonisation of the Space of Reasons
1. Dominance of the sphere of cultural reproduction by instrumental reason	1. Dominance of the manifest image and the space of reasons by nomothetic reason
2. 'Juridification' by the welfare state	2. 'Formalisation' by unified science
3. Transforming the content of the lifeworld from informal/interpersonal to formal/apersonal	3. Transforming the content of the manifest image and the space of reasons from informal/interpersonal to formal/apersonal
4. Levelling principle of exchange: individuals are defined as units of capitalist practices rather than as autonomous agents with specific wants and needs	4. Levelling principle of mathematisation: one explains all events and processes by subsuming them under the laws of fundamental physics
5. Complete social homogeneity, hollowing out the potential for developing the capacities needed for democratic citizenship	5. Unified science, hollowing out the potential for developing the capacities needed for humanistic inquiry

Construed in this manner, the dominance of the sphere of cultural reproduction by system-constitutive rationality analogously parallels the dominance of the manifest image and the space of reasons by nomothetic reason: for example, the liberal-welfare state that is an essential institution of social democracy *principally* structures the provision of welfare under the framework of reifying capitalist practices. Since the structure of social democracy is constituted by the systems of money (market capitalism) and power (the state), the provision of welfare will invariably fail to fulfil the function of mitigating conflict.[35] Under the liberal-welfare state, there is little or no way to resist ideological encroachment and colonisation by systems, since what is the *base* of the societal *superstructure* is the capitalist mode and relations of production. If the base is constituted by systems, then the entire whole is vulnerable to encroachment by systems. Securing and protecting the lifeworld, therefore, is effectively impossible under the liberal-welfare state.[36]

Equally, with regard to the Sellarsian *synoptic vision of fusing the manifest and scientific images together into one coherent image*, as James O'Shea correctly notes, "Sellars does indeed want to hold that the ontology of persons as rational agents and conceptual thinkers within the space of reasons is in principle successfully accommodated *within* the comprehensively physicalist ontology of the ideal scientific image of the world".[37] Since the Sellarsian synoptic vision is *primarily* structured by the comprehensively physicalist ontology of the ideal scientific image, the purely naturalistic vocabulary will invariably fail to fulfil the function of mitigating conflict with the grammar of the *manifest* image. Under the synoptic vision, there is little or no way to resist colonisation by the scientific image, since what is the *base* of the synoptic vision *superstructure* is purely naturalistic vocabulary. If the base is constituted by the comprehensively physicalist ontology of the ideal scientific image, then the synoptic vision is vulnerable to systemic encroachment by scientistic forms of naturalism. Securing and protecting the ontology of persons as rational agents and conceptual thinkers within the comprehensively physicalist ontology of the ideal scientific image of the world, therefore, is effectively impossible. To quote Walter Mignolo here:

> In the case of nurturing and education, the technological revolution is creating a new type of subject whose "knowledge" consists in spending time to package "knowledge" according to the technological options on the menu. "Technological thinking" takes the place of thinking in general and of disciplines like philosophy and the philosophical aspect of all knowledge, reducing them to a technological packaging of options.[38]

Buoyed by the spectacular and rapid expansions in modern scientific knowledge, nomothetic reason attained *explanatory* superiority and "regulatory hegemony",[39] so much so that inquiries paradigmatically defined by the operation of instrumental rationality began to *epistemically manage* the manifest image. Such is the epistemic authority of the natural sciences, and fundamental physics in particular, that the regulatory function of Placement Problem from the very outset aims to *level out the heterogeneous dimensions of the manifest image and the space of reasons in order for them to be deemed meaningful, by framing the legitimacy of modality, meaning, universals, norms, and intentionality in terms of whether or not they can be placed/located in the world described by the natural sciences*. This highlights antinomial tensions and structural problematisations within practices of modernisation.

There is compelling reason to think that nomothetic structures of placeability/locatability operate *juridically*. Such a claim is, of course, connected with Foucault's famous pronouncement that "[t]he 'Enlightenment', which discovered the liberties, also invented the

disciplines".[40] Paraphrasing Judith Butler, "the subjects regulated by such structures are, by virtue of being subjected to them, formed, defined, and reproduced in accordance with the requirements of those structures".[41] From this perspective, scientific naturalism is guilty of a *cognitive* variety of imperialism, one which is the theoretical equivalent of Iris Marion Young's concept of *cultural* imperialism:

> In societies stamped with cultural imperialism, groups suffering from this form of oppression stand in a paradoxical position. They are understood in terms of crude stereotypes that do not accurately portray individual group members but also assume a mask of invisibility; they are both badly misrepresented and robbed of the means by which to express their perspective. Groups who live with cultural imperialism find themselves defined externally, positioned by a web of meanings that arise elsewhere. These meanings and definitions have been imposed on them by people who cannot identify with them and with whom they cannot identify.[42]

In the 1990s, the politics of difference focused on questions concerning nationality, ethnicity, and religion. Under this approach, the value of cultural distinctness is *essential* to individuals and not something accidental to them: their personal autonomy depends in part on being able to engage in specific cultural practices with others who identify with one another as in the same cultural group. For Young, most modern societies contain multiple cultural groups, some of which unjustly dominate the state or other important social institutions, thus inhibiting the ability of minority cultures to live fully meaningful lives in *their own terms*. The dominant group in society can limit the ability of one or more of the cultural minorities to live out their forms of expression. In other words, the dominant culture threatens to swamp the minority culture to the extent that particular cultural practices and different hermeneutic spheres – ways in which members of cultures interpret their experiences – are crowded out or erased. Under this analogy, the concern about scientific naturalism is that the vocabulary of the ideal scientific image becomes *epistemically authoritarian and imperialistic by forcing other forms of inquiry to adopt the discursive recourses and grammars of formal disciplines that are fundamentally different in various ways to the manifest image's 'web of meanings'*. Specifically, power-knowledge regulative discourse transforms naturalism into a doctrine which demands absolute loyalty on pain of intellectual *auto da fé*.[43] To quote Hilary Putnam:

> [t]oday the most common use of the term "naturalism" might be described as follows: philosophers – perhaps even a majority of all the philosophers writing about issues in metaphysics, epistemology, philosophy of mind and philosophy of language – announce in one or another conspicuous place in their essays and books that they are "naturalists" or that the view or account being defended is a "naturalist" one; this announcement, in its placing and emphasis, resembles the placing of the announcement in articles written in

Stalin's Soviet Union that a view was in agreement with Comrade Stalin's; as in the case of the latter announcement, it is supposed to be clear that any view which is not "naturalist" (not in agreement with Comrade Stalin's) is anathema, and could not possibly be correct.[44]

Since purely naturalistic vocabulary is given priority for arranging our way of making sense of things, modality, meaning, universals, norms, and intentionality are subject to *regulative discourse*, insofar as they must be *forced* into a quantitative category that does not seem appropriate for their *specific* characters. If they cannot 'fit' in the world described by the natural sciences, then they are disciplined with a view to being punished should they fail to sufficiently conform to regulative discourse: they are either *dismissed as illusory* or at best *regarded as parasitic*. Given the *levelling* nature of nomothetic rationality and its conservative naturalistic vocabulary, anything that resists *placeability/locatability* is labelled 'odd'. By being *visibly marked*, 'odd' phenomena become 'queer' phenomena,[45] which then become 'problematic' and 'punishable' phenomena. Just as *governmental discipline* is directed towards homogenising bodies and sexualities, producing "subjected and practised bodies, 'docile' bodies" (Foucault, *Discipline and Punish*, 138),[46] *epistemic discipline* is directed towards homogenising discursive vocabulary and inquiry, producing "disciplinary monotony" (Foucault, *Discipline and Punish*, 141), subjected and practised minds, 'docile' minds.[47]

For Foucault, panoptical observation, i.e. "permanent, exhaustive, omnipresent surveillance, capable of making all visible, as long as it could itself remain invisible" (Foucault, *Discipline and Punish*, 214), encourages the observed to self-subject,[48] by internalising the 'faceless gaze' and self-instituting *rectitudinal somatic habits*.[49] In doing so, panoptical observation is the physics (specifically, the optics and mechanics) of *invisible* power.[50] Such power is exercised through the practice of normalising and homogenising judgement, which focuses on producing and reproducing a value-hierarchy in which rectitude is positioned at the top of the modern normative order. Consequently, the modern *moral-psychological* preference is for, as Adriana Cavarero writes, "… the autonomous I, self-sufficient and exemplarily vertical, in which the modern epoch decides to mirror itself";[51] and the modern *aesthetic* preference is for harmonic unity, perfect alignment, immobility, and silence.[52]

There is constant pressure to conform to a homogeneous social model, and concomitantly, the marked hyper-visibilisation of gendered,[53] racial,[54] and disabled embodied subjectivity that does *not* conform to regulative discourse coerces such embodiment. To quote Susan Bordo on gendered disciplinary power, "… the politics of appearance … as arising out of and reproducing normative feminine practices of our culture, practices which train the

female body in docility and obedience to cultural demands while at the same time being experienced in terms of power and control".[55]

Capitalism, particularly its late iterations, of course, has its own connection with disciplinary power and normalising judgement that play pivotal roles in training docility in at least two ways.[56] (i) The corporate gaze of neoliberal commodification – i.e. monetised reification – transforms healthcare, transport, education, utilities, etc. into marketable goods traded by providers. Where these used to be *public services*, paid for by tax revenue and delivered free of charge, their commodification sees them mutate and normalised into monetised goods and services marketed exclusively for *profit*. The dominance of marketisation and the primacy of exchange-value distorts the true and original nature of production and reproduction – *as a communicative relationship between people* – by construing production and reproduction purely in terms of instrumental relationships. To quote Lukács and Pollock here:

> [Commodity form] stamps its imprint upon the whole consciousness of man; his qualities and abilities are no longer an organic part of his personality, they are things which he can "own" or "dispose of" like the various objects of the external world. And there is no natural form in which human relations can be cast, no way in which man can bring his physical and psychic "qualities" into play without their being subjected increasingly to this reifying process. (Lukács, *History and Class Consciousness*, 100)

> Under private capitalism all social relations are mediated by the market; men meet each other as agents in the exchange process, as buyers or sellers. The source of one's income, the size of one's property are decisive for one's social position. The profit motive keeps the economic mechanism of society moving. Under state capitalism men meet each other as commander or commanded; the extent to which one can command or has to obey depends in the first place upon one's position in the political set-up and only in a secondary way upon the extent of one's property … (Pollock, "State Capitalism," 207)

For example, higher-education in the West has seen teaching and research increasingly embody and normalise habits and vocabularies of *commercial production*: goods – or rather, *research outputs* – are produced by academics to be sold to a consumer-clientele – in this case, students (and the government). The imprint of the commodity form also mutates the qualitative relationship between student and educator. Whereas this relationship may have been originally qualitative, communicative, deliberative, and active it risks now becoming *quantitative, instrumental, non-deliberative, and passive*. As Lasse Thomassen writes, "[t]he relationship between student and professor is less and less one of transmitting knowledge and socialising the student into the world of knowledge and critical thinking and citizenship".[57]

(ii) Neoliberal capitalism exercises disciplinary power by producing and reproducing an epistemic hierarchy in which STEM is positioned at the top of the normative order. There is constant pressure to conform to this homogeneous scientistic model, and concomitantly, the marked hyper-visibilisation of subjects that do *not* conform to STEM regulative discourse is harmful.[58] Firstly, under the STEM hierarchy, not only are the humanities' web of meanings defined from a *non*-humanistic perspective, but the humanities invariably regard *their* epistemic practices and the like from an *externalised* point of view. Secondly, under the STEM hierarchy, if the humanities do *not* conform to STEM regulative discourse, then they are disciplined with a view to being punished: *either they are defunded or departments are subject to closure.* Paraphrasing Fanon:[59]

> The STEM world, the only decent one, was preventing the humanities from participating. It demanded that a serious intellectual inquiry behave like a serious intellectual inquiry. It demanded of the humanities that they behave like a non-serious intellectual inquiry – or at least speculatively. The humanities hailed the world, and the world amputated their enthusiasm. The humanities were expected to stay in line and make themselves scarce.

To resist and eventually get over scientism involves combatting the circulation of *epistemic power*.[60] This *decolonial* way of thinking is, as Mignolo writes, "nothing more than a relentless analytic effort to understand, in order to overcome the logic of [epistemic] coloniality underneath the rhetoric of modernity, the structure of management and control that emerged out of the transformation of the [epistemic] economy".[61] The Foucauldian critique of scientific naturalism, as such, "should be seen as a kind of attempt to emancipate historical knowledges from that subjection, to render them, that is, capable of opposition and of struggle against the coercion of a theoretical, unitary, formal and scientific discourse. It is based on a reactivation of local knowledges – of minor knowledges, as Deleuze might call them – in opposition to the scientific hierarchisation of knowledges and the effects intrinsic to their power".[62] In this respect, to quote Lois McNay, "it may be more interesting to view Foucault's work as yet another variation of the Romantic/modernist quest to retrieve a more intense or worthwhile form of experience which escapes the deadening effects of the instrumental rationality which pervades contemporary culture".[63]

Construed in this Foucauldian way, the most pressing problem with the disciplinary framework of scientific naturalism is that, rather than providing "a discourse whose tension

would keep separate the empirical and the transcendental, while being directed at both; a discourse that would make it possible to analyse man as a subject, that is, as a locus of knowledge which has been empirically acquired but referred back as closely as possible to what makes it possible, and as a pure form immediately present to those contents",[64] it produces 'docile' minds through estranging humanity from its *pluralist* matrix of sense-making practices. Here, in this crucial respect, one can find an important source of constructive critical alignment between Foucault and Habermas,[65] as both thinkers view "dehumanisation as an overextension of subject-centred (or instrumental) reason".[66] In what follows, the final part of the paper, I challenge my Foucauldian post-structuralist critique of scientific naturalism by briefly considering Colin Koopman's reading of Foucault's critical attitude towards modernity as involving a 'logic of purification' rather than a 'logic of exclusion'.

III

According to Koopman, "Foucault saw modernity, understood as an assemblage of practices, as problematised by ineliminable tensions between constitutive couples: power and freedom, in one version of the story … [and] we moderns find ourselves increasingly unable to negotiate the tensions arising within such couples …"[67] Crucially, however, Koopman argues that Foucault's critique of modernity, unlike Weber's and Adorno & Horkheimer's, is not predicated on viewing modernity as operating under a logic of *exclusion*, but rather under a logic of *purification*:

> Exclusion can be taken in the rather colloquial sense of banishment or expulsion, such that the exclusion of madness by reason amounts to the exile of madness wherever rationality reigns. Purification can be taken as describing a process in which two kinds of practices rigorously isolate themselves from one another … Purification is not a process of exclusion, but rather of inclusion through separation. We can schematise these relations as follows: *a* excludes *b*, while *y* and *z* are produced so as to purify themselves of one another; exclusion is a getting rid of *b*; purification is *y* and *z* preserving both themselves and one another by means of a rigorous separation. It also helpful to state, even if only in schematic form, a contrast concept for each: the exclusion of *b* by *a* is overcome by the liberation of *b* from *a*, while the purification of *y* and *z* is overcome by developing a more integral relation between *y* and *z*. I understand exclusion and purification as categorical generals that can be more precisely specified in context. For example, in the context of political theory, the category of exclusion can be characterised in terms of what Foucault called sovereign power, whereas the category of purification can be characterised in terms of Foucault's discussions of disciplinary power and biopower … Exclusion seeks to eliminate by means of separation; purification seeks to preserve by means of separation. Exclusion is the logic of war, where the enemy must be eliminated. Purification is the logic of a modernity … in which punishment must preserve criminality rather than eliminate it in order to justify the continued need for the entire punitive apparatus.[68]

Koopman's important distinction between exclusion and purification, as I understand it, can be expressed as follows:

Logic of Exclusion	Logic of Purification
- Practices of alterity, strict separation, domination, elimination, destruction, erasure, logical negation - The associated model of power is one of centralised monarchical authority 'from which secondary and descendent forms would emanate'	- Practices of a complex *Aufhebung* rather than logical negation - The associated model of power is one of disciplinary power and biopower (regulative discourse)

Now, if one applies Koopman's framework to the subject of scientific naturalism and nomothetic vocabulary, it would seem that if I wish to maintain that the levelling nature of nomothetic rationality and its conservative naturalistic vocabulary involve *regulative discourse*, then I need to frame scientific naturalism as operating under a logic of purification, rather than as operating under a logic of exclusion. However, if I need to frame scientific naturalism as operating under a logic of purification, rather than as operating under a logic of exclusion, then, on *Foucauldian grounds*, I cannot maintain that scientific naturalism is guilty of a cognitive variety of imperialism, since the imperialist model of power, *contra* that of regulatory features of disciplinary power and biopower, is one of *centralised authority*.

I wish to make two critical remarks in response to this objection. Firstly, by returning to the schematised version of the Placement Problem, it should be clear that both the logic of exclusion and the logic of purification are operative in the nomothetic framework, to the extent that the strictness of Koopman's distinction is difficult to maintain, since purification and exclusion are *partner*-concepts: *a* excludes *b*, so as to purify *a*.

1. All reality is ultimately natural reality.
2. Whatever one wishes to admit into natural reality must be placed in natural reality.
3. *Modality, meaning, universals, moral, epistemic and aesthetic norms, consciousness, self-consciousness, and intentionality, and so on* do not seem admissible into natural reality.
4. **Therefore, if they are to be placed in nature, they must be forced into a category that does not seem appropriate for their specific characters; and if**

> **they cannot be placed in nature, then they must be either dismissed as *non-genuine* phenomena, or at best regarded as *parasitic* second-rate phenomena.**

The regulatory function of the Placement Problem frames the legitimacy of modality, meaning, universals, norms, and intentionality in terms of whether or not they can be placed/located in the world described by the natural sciences. If they are to be placed in nature, they must be forced into a category that does not seem appropriate for their specific characters, i.e. they are *purified*. If they cannot be placed in nature, then they must be either dismissed as non-genuine phenomena, i.e. they are *excluded*. Such a demand, as Nicholas Rescher evocatively writes, "… turn[s] Occam's razor into Robespierre's guillotine".[69] Purging the lifeworld of all its idiosyncratic and heterogeneous *Geistig* features involves, to quote Tim Mooney, a self-refuting "secularised Platonism",[70] for positions such as eliminativism necessarily *presuppose* the grammar of the *lifeworld* in an effort to excise it in favour of the *pure* scientific image. Moreover, I think one has compelling reason to believe that positions such as eliminativism exhibit marked degrees of anthropological self-hate, to the extent that the desire for a purely nomothetic account of the world conveys a *fear of complexity* and a corresponding loathing of the necessarily qualitative features of embeddedness and embodiment.

Secondly, according to Koopman, "Foucault explicitly described the changing face of power in the modern age as the passage "from a technology of power that drives out, excludes, banishes, marginalises, and represses, to a fundamentally positive power that fashions, observes, knows, and multiplies itself on the basis of its own effects"[71]".[72] Though I agree with Koopman's claim that, for Foucault, modernity involves the emergence and development of regulatory power, I disagree with what appears to be an oversimplification of Foucault's position. Rather, *pace* Koopman's interpretation that modernity involves a *straightforward transition from sovereign power to regulatory power*, sovereign power and regulatory power, in modernity, are bound up together and conceptually mediated,[73] "because sovereignty and disciplinary mechanisms are two absolutely integral constituents of the general mechanism of power in our society".[74] This is important because sovereignty and disciplinary mechanisms indicate the degree of complexity with which modernity is identified – the differentiation of the departments of life and the ways in which these two forms of power constitute them, but in ways that do not amount to a 'false' totality, to use Horkheimer's expression.[75]

Furthermore, the ways in which sovereignty and disciplinary mechanisms are bound up in modernity also helps explain the way *pouvoir-savoir* plays a very significant role in

elaborating a logical relationship between modern epistemic practices and modern socio-political and cultural practices.[76] To quote Rouse:

> Although Foucault does not use the term "epistemic sovereignty," it is not hard to see that there is a close parallel within epistemology to the preoccupation of political reflection with sovereignty as Foucault construes it. Recall the crucial constituents of political sovereignty: a unitary regime, representing legitimacy through law, established from an impartial standpoint above particular conflicts, and enforced through discontinuous interventions that aim to suppress illegitimacy. Just as a sovereign power stands above and adjudicates conflicts among its subject powers, epistemic sovereignty is the standpoint above disputes among competing truth-claims. Epistemic sovereignty constitutes knowledge as the unified (or consistently unifiable) network of truths that can be extracted from the circulation of conflicting statements. They are legitimated as truths by the precepts of rational method, the epistemic surrogate for law … Foucault has the same dual objection to this conception of epistemic sovereignty as to that of political sovereignty. On the one hand, this conception of knowledge overlooks the micropractices through which particular candidates for knowledge and their objects are produced … Both knowing subjects and truths known are the product of relations of power and knowledge. On the other hand, it demarcates an aspiration to power, to the suppression of all conflicting voices and lives, which Foucault saw as one of the chief dangers confronting us.[77]

What I hope to have achieved in this paper is to (i) bring Foucauldian post-structuralist theory into the engaging conversation concerning scientific naturalism and the Placement Problem; and (ii) question the relations between our society's imbrication of economic-political power structures and knowledge in such a way that also effects some constructive critical alignment between Foucault and Habermas, helping to undermine the traditional view of their respective critical theories as incompatible. A subsequent suasive task is to argue that the Foucauldian post-structuralist critique of scientific naturalism is *better* than the critiques of scientific naturalism by the Hegelians, the (neo-)Kantians, the Husserlians, the Wittgensteinians, the 'left-wing' Sellarsians, the broadly pluralist realists, and the Rortian neopragmatists.

Notes

1. Habermas, "Modernity – An Incomplete Project", 9.
2. Breen, *Under Weber's Shadow*, 9.
3. Karlberg, *Weber's Types of Rationality*, 1176.
4. Weber, *Protestant Ethic*, 124.

5. Ibid., 123.

   'Iron cage' is Talcott Parsons's translation of Weber's term. However, arguments have been made that 'a shell as hard as steel' is in fact a better rendering. For further on this debate, see Baehr (2001) and Chalcraft (1994).

6. Breen, *Under Weber's Shadow*, 10-11.

7. Weber, "Social Psychology of World Religions," 281.

8. Weber, "Science as a Vocation," 139.

9. Cf. "Mathematical procedure became … the ritual of thinking …; it turns thought into a thing, an instrument …" (Adorno & Horkheimer, *Dialectic of Enlightenment*, 25).

10. Friedman, "Philosophy of Natural Science in Idealism and Neo-Kantianism," 82. Importantly, one should note that "… this principle, for Helmholtz, has more a regulative than a constitutive character: as the 'condition for the complete conceptualisability of nature', it sets up what Kant would call a regulative ideal akin to the ideal of complete systematic unity" (Friedman, "Philosophy of Natural Science in Idealism and Neo-Kantianism," 89).

11. Windelband, "Rectorial Address," 171.

12. I think the approach of Finn Spicer (2011) and Alison Stone (2013) to naturalism as a cluster concept is helpful. Spicer, with support from Stone, identifies the following claims that make up the various strands of naturalism:

    (a) Rejection of the idea of first philosophy.
    (b) Belief that philosophy is continuous with the sciences.
    (c) Disbelief in supernatural entities/processes.
    (d) Physicalism about the mind.
    (e) Opposition to non-naturalism about ethics/values.
    (f) Rejection of apriorism.

    Given this way of understanding naturalism, then, we can assert the following: someone is a naturalist if they are committed to all six claims. However, as Stone correctly writes, "naturalism is also a matter of degree in that, for each strand of the cluster naturalism that a philosophy exhibits, it will exhibit that strand to greater or lesser degrees: for instance, one might uphold the continuity of science in stronger and weaker forms". (Stone, "Hegel, Naturalism, and the Philosophy of Nature," 63)

    See also Ritchie (2008) and Giladi (2014; 2019).

13. See Rosenberg "Disenchanted Naturalism," 19.

14. Viz. Papineau (1993).

15. Price's Placement Problem owes much to Jackson (1998), where it is dubbed 'The Location Problem', although Price endeavours to distinguish them (Price, *Expressivism, Pragmatism, and Representationalism*, 27n).

16. Price, "Naturalism without Representationalism," 187.

17. Oskala, *Foucault on Freedom*, 31.

    See also Sellars, *Science, Perception and Reality*, 6.

18. McDowell, *Mind and World*, 70.

19. See Giladi (2014; 2019).

20. See D'Oro (2018; 2019); Papazoglou (2019).

21. See Moran (2008; 2012; 2013) and Hanna (2014).

22. See Beale and Kidd (2017).

23. See O'Shea (2007, 2009).

24. See McDowell (1994); Putnam (1990; 1994; 1995; 2002; 2004; 2012; 2015); De Caro (2015; 2019).

25. See Rorty (2010); Price (2004); Macarthur and Price (2007); Macarthur (2008).

26. Understood in such a manner, our *ordinary* vocabulary about power is subject to an error theory: our *ordinary* vocabulary about power mistakenly rests on construing power as substantival, rather than as relational. As Foucault puts it:

    "Power in the substantive sense, 'le' pouvoir, doesn't exist. What I mean is this. The idea that there is either located at-or emanating from-a given point something which is a 'power' seems to me to be based on a misguided analysis, one which at all events fails to account for a considerable number of phenomena. In reality power means relations, a more-or-less organised, hierarchical, co-ordinated cluster of relations." (Foucault, *Power/Knowledge*, 198)

    See also *The History of Sexuality, Volume 1*, 92-93.

    I think a helpful way of making sense of Foucault's complex position here is by construing that the norms underpinning power relations reveal the *metaphysics* of power as *processist*. If the metaphysics of power is processist, then one would be committed to the view that power relations are never *fixed*. What is confusing, however, is Foucault's self-characterisation as a *nominalist*, since power is *real* not as substance, but as a form of relations, following Iris Marion Young (1990).

27. Foucault, *Power/Knowledge*, 233.

28. Oskala, *Foucault on Freedom*, 97.

29. Rouse, "Power/Knowledge," 99.

30. Foucault, *Essential Works, Volume 1*, 39.

31. Gutting, *Foucault's Archaeology*, 282.

32. The long-standing view of the relationship between Foucault and Habermas paints (i) Foucault as an arch post-modern anti-humanistic Nietzschean genealogist advocating historical relativism and anarchism; (ii) Habermas as an arch humanistic Kantian pragmatist transcendentally advocating universal norms and deliberative democracy.

33. Ingram, "Foucault and Habermas," 251.

34. Cf. "The multiplicity of forms is reduced to position and arrangement, history to fact, things to matter". (Adorno & Horkheimer, *Dialectic of Enlightenment*, 7)

35. Viz. "Capitalist societies are distinguished from all others not by the problem of their reproduction, that is, the reconciliation of social and system integration, but by the fact that they attempt to deal with what is in fact the basic problem of all societies in a way that simultaneously entertains two solutions which logically preclude one another: the differentiation or privatisation of production and its politicisation or socialisation … The two strategies thwart and paralyse each other." (Offe, "Ungovernability," 85)

36. Viz. "[p]olitics directed to expanding the social-welfare state are certainly faced with a dilemma … The dilemma consists in the fact that the social-welfare state is supposed to head off immediately negative effects on the lifeworld of a capitalistically organised occupational system, as well as the dysfunctional side effects thereupon of economic growth that is steered through capital accumulation, and it is supposed to do so without encroaching upon the organisational form, the structure, or the drive mechanism of economic production … The capitalist drive mechanism is protected and not altered by the interventions of the state." (Habermas, *Theory of Communicative Action, Volume II*, 347-48) "Welfare-state mass democracy is an arrangement that renders class antagonism still built into the system innocuous, under the condition, however, that the capitalist dynamics of growth, protected by measures of state intervention, do not grow weak." (Ibid., 350-51)

37. O'Shea, "On the Structure of Sellars's Naturalism," 194.

38. Mignolo, *The Darker Side of Western Modernity*, 15.

39. Butler, *Gender Trouble*, 5.

40. Foucault, *Discipline and Punish*, 222.

41. Butler, *Gender Trouble*, 4.

42. Young, *Justice and the Politics of Difference*, 59.

43. Foucault argues that modern natural science emerges from the Inquisition's model of investigation: "In their historical formation, measure, inquiry, and examination were all means of exercising power and, at the same time, rules for establishing knowledge. Measure: a means of establishing or restoring order, the right order, in the combat of men or the elements; but also a matrix of mathematical and physical knowledge. The inquiry: a means of establishing or restoring facts, events, actions, properties, rights; but also a matrix of empirical knowledge and natural sciences. The examination: a means of setting or reinstating the standard, the rule, the distribution, the qualification, the exclusion." (Foucault, *Essential Works, Volume 1*, 17-18)
See also Foucault, *Discipline and Punish*, 226.

44. Putnam, "The Content and Appeal of "Naturalism"", 59.

45. Cf. Mackie (1977).

46. See the following from David Ingram: "punishment increasingly has as its aim the disciplining of the body as a source of productivity; and discipline, as a softer and less visible – albeit more global – form of punishment, has as its aim the training of a pliant, productive population" (Ingram, "Foucault and Habermas," 246).

47. Cf. "The fact that the introduction of 'rationalised' but boring assembly-line methods in the great industries of today has left its mark on the whole of modern society makes it appear likely that the widespread adoption of automation might well have similar results". (Pollock, "State Capitalism," 81-82)

48. Cf. Foucault, *Discipline and Punish*, 203.

49. "Recruits become accustomed to 'holding their heads high and erect; to standing upright, without bending the back, to sticking out the belly, throwing out the chest and throwing back the shoulders …'" (Foucault, *Discipline and Punish*, 135-36)

50. Cf. Foucault, *Discipline and Punish*, 177.

51. Cavarero, *Inclinations*, 24.
See also the following quote: "rather than speaking of the vertical model of the subject, one should speak of the general model of a verticality that is also reflected in the modern subject's configuration" (Cavarero, *Inclinations*, 43).

52. Cf. Foucault, *Discipline and Punish*, 177.

53. Cf. the following from Sandra Bartky: "… The woman who checks her make-up half a dozen times a day to see if her foundation has caked or her mascara run, who worries that the wind or rain may spoil her hairdo, who looks frequently to see if her stocking

have bagged at the ankle, or who, feeling fat, monitors everything she eats, has become, just as surely as the inmate in the Panopticon, a self-policing subject, a self committed to relentless self-surveillance. This self-surveillance is a form of obedience to patriarchy". (Bartky, *Femininity and Domination*, 80)

54. Cf. "The whole indefinite domain of the non-conforming is punishable …" (Foucault, *Discipline and Punish*, 178-79).

See also the following from Fanon: ""Look, a Negro!" It was an external stimulus that flicked over me as I passed by. I made a tight smile. "Look, a Negro!" It was true. It amused me. "Look, a Negro!" The circle was drawing a bit tighter. I made no secret of my amusement. "Mama, see the Negro! I'm frightened!" Frightened! Frightened! … And already I am being dissected under white eyes, the only real eyes. I am fixed. Having adjusted their microtomes, they objectively cut away slices of my reality. I am laid bare. I feel, I see in those white faces that it is not a new man who has come in, but a new kind of man, a new genus. Why, it's a Negro!" (Fanon, *Black Skin, White Masks*, 84; 87)

55. Bordo, *Unbearable Weight*, 27.

56. Cf. "[Disciplinary power] has been a fundamental instrument in the constitution of industrial capitalism and of the type of society that is its accompaniment". (Foucault, *Power/Knowledge*, 105)

57. Thomassen, *Habermas*, 77.

'How can I embed employability into the philosophy curriculum to ensure the commercial viability of the philosophy degree programme?'

'How can I maximise my chances of getting a good degree with as little effort as possible on my philosophy modules?'

'What is the brand and USP of this university?'

58. Viz. "[T]he way in which engineers think about and act upon the problems of harnessing the forces of nature and the labour of human beings to economic ends will become of ever greater significance in the future. The resulting attitude of mind to both material and spiritual matters coincides with the authoritarian tendencies in all phases of management …" (Pollock, *Automation*, 227)

59. "The white world, the only decent one, was preventing me from participating. It demanded that a man behave like a man. It demanded of me that I behave like a black man – or at least like a Negro. I hailed the world, and the world amputated my

enthusiasm. I was expected to stay in line and make myself scarce." (Fanon, *Black Skin, White Masks*, 94)

60. See the following from Rouse: "Epistemic conflict is always shaped by the goods, practices, and projects whose allocation and pursuit are at issue, and by the institutions and social networks which are organised around those pursuits. In such real contexts, there are constraints upon which arguments and evidence will count as relevant and persuasive, based upon the need for support from others and for reliability from things. It matters what will count as persuasive to others who occupy strategic points in the circulation of knowledge and argument, and it also matters how things will manifest themselves in the contexts in which their behaviour is recognised to be relevant." (Rouse, "Foucault and the Natural Sciences," 16)

61. Mignolo, *The Darker Side of Western Modernity*, 10.

62. Foucault, *Power/Knowledge*, 85.

63. McNay, *Foucault and Feminism*, 161.

Contra the long-standing conflation in both Anglo-American and continental European philosophical thought of Foucauldian post-structuralism with post-modernism, I would argue that Foucauldian post-structuralism is not opposed to the basic project and values of modernity; rather, the Foucauldian post-structuralist is best understood as a critical modernist, one who wants to include power relations as a way of diagnosing social pathologies and as a way of articulating critical visions of progress:

"I think that the central issue of philosophy and critical thought since the eighteenth century has always been, still is, and will, I hope, remain the question: *What* is this Reason that we use? What are its historical effects? What are its limits, and what are its dangers? How can we exist as rational beings, fortunately committed to practising a rationality that is unfortunately crisscrossed by intrinsic dangers? One should remain as close to this question as possible, keeping in mind that it is both central and extremely difficult to resolve. In addition, if it is extremely dangerous to say that Reason is the enemy that should be eliminated, it is just as dangerous to say that any critical questioning of this rationality risks sending us into irrationality … This is the situation that we are in and that we must combat. If intellectuals in general are to have a function, if critical thought itself has a function, and, even more specifically, if philosophy has a function within critical thought, it is precisely to accept this sort of spiral, this sort of revolving door of rationality that refers us to its necessity, to its indispensability, and at the same time, to its intrinsic dangers." (Foucault, *The Foucault Reader*, 249)

See also Koopman, *Genealogy as Critique*, 156.

64. Foucault, *The Order of Things*, 320-21.

65. As Ingram notes, "[o]f course, such a reconciliation would have seemed preposterous to Foucault and Habermas. But then again, since neither really understood the other, why should we take their opinions as gospel truth?" (Ingram, "Foucault and Habermas," 261)

66. Ingram, "Foucault and Habermas," 254.

67. Koopman, *Genealogy as Critique*, 156.

68. Ibid., 157; 164.

69. Rescher, "Philosophy as Rational Systematisation," 40.

70. In conversation with me.

71. Foucault, *Abnormal*, 48.

72. Koopman, *Genealogy as Critique*, 170.

73. These two aspects are co-present throughout Foucault's work from *Madness and Civilisation* to the *History of Sexuality* and the later essays articulating biopower.

74. Foucault, *Power/Knowledge*, 108.

See also Foucault, *Power/Knowledge*, 105-6.

75. I am grateful to the reviewer for alerting me to this point.

76. See Rouse (1987) for further on this topic.

77. Rouse, 'Power/Knowledge', 106-7.

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