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Nietzsche's Sensualismⁱ

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I. Introductionⁱⁱ

Recent literature on Nietzsche has given great attention to his late endorsement of the epistemological position he sometimes refers to, indeed quite puzzlingly, as 'sensualism'. A first thesis (T1) central to this view is succinctly described in BGE 134, where he stresses that '[a]ll credibility, good conscience, and evidence of truth first comes from the senses' (BGE 134). Taken at face value, this passage seems to plainly state the empiricist view according to which the senses are the source we need to consult in order to decide if a proposition about the world is true or not. A second thesis (T2), which Nietzsche explicitly links to the view he refers to as 'sensualism', is that sense organs are causally efficacious. Again, at first sight this claim seems to point to the elementary fact that our sense organs, as all other things, are engaged in causal exchanges governed by the laws of physics. If we are to give credit to this first impression, thus, the sensualism endorsed by Nietzsche would be a position akin to empirical realism.

Notably, this is the exact view defended by Maudemarie Clark in her influential work from 1990. In particular, Clark argued that by advocating sensualism the late Nietzsche abandoned two crucial assumptions held in his previous work: representationalism and, consequently, the epistemological claim she calls 'falsification thesis' (FT), i.e. the view according to which we falsify reality by the way we cognize it. Clark's reading has proved highly controversial and has been questioned by other scholars, in particular by R. Lanier

Anderson and Nadeem Hussain, who agree that Nietzsche's late sensualism is not incompatible with any version of the falsification thesis and that, therefore, there is no need to maintain that he dismisses this key epistemological view. In fact, there is a sense in which the claim that 'evidence of truth first comes from the senses', on the one hand, and the falsification thesis, on the other hand, seem to be not only compatible, but even intuitively plausible in their conjunction. This point has been well grasped by Kant, who stresses that 'it is correctly said that the senses do not err; yet not because they always judge correctly, but because they do not judge at all' (Kant 1781/1787: 384, A293/B350). Since the material our senses supply cognition with is primitive and still 'raw'—one could argue—, it makes less sense to say that our senses operate any falsification. However, as we do process this 'raw' material cognitively, some form of falsification might well enter into the picture at higher levels.ⁱⁱⁱ

I think that the 'compatibilism' favoured by both Hussain and Anderson is the right strategy to be pursued. However, it seems to me—for reasons that will emerge later—that their own proposals also raise substantial difficulties. Here a brief preview: on the one hand, it seems to me that Hussain's reading cannot provide a convincing account of the second of the two central claims mentioned above, namely, that sense organs are causally efficacious (T2); on the other hand, Lanier Anderson's interpretation of the falsification thesis, according to which consciousness is responsible for cognitive forgery, does not fit well with Nietzsche's *strong* sensualistic assumption that senses 'do not lie at all' (TI, *Reason in Philosophy* 2). Moreover, there is another important aspect that—with the exception of Robin Small—has been almost completely ignored by the scholars who attempted to account for Nietzsche's sensualism, namely, the problem of the qualitative content of sensation. In this paper I will make the case for the claim that Nietzsche takes it to be an important—if not vital—issue for his sensualism. A so far unknown marginal note regarding the theory of sensation defended by the physicist Otto Schmitz-Dumont will provide us here with fascinating textual evidence which indirectly supports this claim. Eventually, the proposed reading will thus strongly diverge both from Clark's identification of Nietzsche's sensualism with empirical realism as well as from Hussain's and Lanier Anderson's 'compatibilist' solutions.

An outline of the paper should be helpful. Since the debate between Clark and Hussain sets the frame for my own interpretation, in part II I will present and discuss both their readings. I will start by sketching Clark's position and thus considering some problems for her account already pointed out by Hussain. Then, I will focus on Hussain's proposal according to which Nietzsche's sensualism should be read as akin to Ernst Mach's 'neutral

monism'. In particular, I will argue that Hussain's Machian suggestion cannot make sense of the 'substantive' causality Nietzsche clearly ascribes to sense organs (T2). Part III deals with this last topic. Since Nietzsche's late sensualism is clearly directed against neo-Kantian accounts of cognition, I will briefly sketch the target. Then, starting with a close reading of BGE 15, I will argue that in this aphorism Nietzsche endorses a view of causality borrowed by Maximilian Drossbach, a minor author, yet important for his 'intellectual biography'.^{iv} Part IV puts more flesh on the scaffolding provided by causality. Firstly, I will address some problems raised by my reading of Nietzsche's account of causality by arguing that he defends a *qualified* sensualism that should not be conflated with materialistic *folks* sensualism. Then, I will show that—as early as in the *Daybreak*—Nietzsche was committed to an *ecological* understanding of cognition, and maintain that he never abandoned this position, but rather redefined it within the frame of his later theory of the will to power. In particular, by exploiting the similitude between sense organs and measurement instruments provided in *Twilight of the Idols*, I will argue that for Nietzsche the reason why our senses are reliable (T1) is that the data they provide are 'physically grounded' in causal exchanges with the external world. Finally, in part V I will address the problem of sensory qualities. Initially, I will show that Nietzsche, indeed, holds this problem to be not only relevant *an sich*, but also—more remarkably—crucial to the problem of sensualism. Therefore, the further step will be to sketch Nietzsche's account of phenomenal^v content and to show how it fits within the broader frame of his sensualism. Finally, I will address the problem of falsification (FT). Here, I will follow Hussain's suggestion according to which conceptualisation is responsible for the falsification of primitive sensations. However, I will show that his account also creates a significant difficulty with regard to the issue of qualitative content. The last task will be to offer a solution to this problem.

II. Clark and Hussain

II.1) Clark's reading

Clark maintains that Nietzsche's late sensualism strongly differs from the account of cognition he endorsed before, since, at least, around the time of *On Truth and Lie*. According to her reading, this theory amounts to a version of neo-Kantian^{vi} representationalism committed to following epistemological claims: (a) all we have cognitive access to are representations; (b) representations do not correspond to the things in themselves; (c) our

knowledge, since it is only about representations, is false: it is no (real) knowledge of the (real) things in themselves. Point (c) corresponds to the ‘falsification thesis’, i.e. the view according to which ‘the human world is a falsification’ and which, according to Clark, motivates Nietzsche’s early ‘denial of truth’ (Clark 1990: 103). Yet, Clark also argues that Nietzsche still continued in maintaining the ‘falsification thesis’ even after he had rejected the concept of thing in itself, thus reshaping his previous representationalism as follows: (a) all we have cognitive access to are representations; (b) representations do not correspond to the ‘chaos of sensation’; (c) our knowledge, since it is only about representations, is false: it is no (real) knowledge of the (real) ‘chaos of sensation’. In this new version of representationalism, thus, it is the ‘chaos of sensation’ which—instead of the things in themselves—would act as the ‘true world’, i.e. as the reality falsified by our cognition. Crucially, the falsification thesis is retained also in this scenario (see (c)).

However, could representationalism survive even the dismissal of the thing in itself, as soon as Nietzsche brings sensualism into play it becomes hopelessly untenable, as the following passage from Clark shows:

To study physiology with a good conscience, we must insist that the sense organs are *not* appearances in the way idealist philosophy uses that term: as such, they certainly could not be cause! Sensualism, therefore, at least as regulative principle, if not as a heuristic principle.—What? and other people even say that the external world is the product of our organs? But then our body, as a piece of this external world, would really be the product of our organs! But then our organs themselves would really be – the product of our organs! This looks to me like a thorough *reductio ad absurdum*: given that the concept of a *causa sui* is something thoroughly absurd. So does it follow that the external world is *not* the product of our organs—? (BGE 15)

Commenting on this passage, Clark defends that Nietzsche ‘must presuppose the existence of real, independently existing, things; brains, sense organs, the bodies to which they belong, and the bodies with which they interact’ (Clark 1990: 123). Hence—she stresses—the sensualism here proposed by Nietzsche is akin to empirical realism, which is clearly at odds also with the second variant of representationalism summarized above. Therefore, since some version of representationalism is on the contrary required by the ‘falsification thesis’, Clark concludes that Nietzsche’s endorsement of sensualism undoubtedly shows that he ends up dropping his previous epistemological view.

II.2) Problems with Clark's view

There are two main problems with Clark's interpretation.^{vii} Since both have been perspicuously discussed by Hussain, I will examine them briefly and add only some few remarks.

The first problem is clearly seen also by Clark herself. The claim that the late Nietzsche abandoned the 'falsification thesis' seems to be contradicted by the fact that, on the contrary, several passages in his late works apparently endorse it. Clark tries to solve this tension by arguing that Nietzsche did not realize immediately that the rejection of the very idea of a 'true world' made the 'falsification thesis' untenable. This would be the reason why he did not yet reject this thesis in BGE, though he had already dismissed both versions of the 'true world' previously employed to substantiate representationalism, i.e. initially the thing in itself and later the 'chaos of sensation'. Starting from the *Genealogy of Morality*, then, there is according to Clark no passage in Nietzsche's last six books in which he endorses the 'falsification thesis'.^{viii} On this point, Hussain rightly notes that 'the incompetence ascribed to Nietzsche is pretty severe' (330), since clear statements of the 'falsification thesis' can be found in BGE 4 and 11, thus in the immediate vicinity of the abovementioned aphorism 15. Such incompetence becomes even more embarrassing if we consider that in the fifth book of the *Gay Science*, composed after *Beyond Good and Evil* and before the *Genealogy*, falsification thesis and sensualism still seems to cohabit.^{ix} Finally, one could also add that—*ceteris paribus*—an interpretation which does not need to make such a problematic assumption should be preferred.

The second problem is about the 'chaos of sensation'. To start with, note that Nietzsche refers to the 'chaos of sensation' only in an unpublished note written in the fall of 1887,^x which is clearly at odds with the chronology proposed by Clark.^{xi} Moreover, Hussain correctly argues that the 'chaos of sensation' could hardly substitute the thing in itself in Nietzsche's representationalism, since it is not easy to figure out how something made up of sensations could act as the extra mental reality—Clark's 'true world'—upon which our cognition operates. On the contrary, the standard understanding of the phrase 'chaos of sensation' would take it as something mind-dependent, similar to Kant's *Mannigfaltigkeit*. More strikingly, however, is the fact that Nietzsche himself unequivocally rules out that the 'chaos of sensation' is to be understood as a surrogate of the 'true world', as Clark does:

The antithesis to this phenomenal world is not ‘the true world’, but rather the formless-unformulable world of the chaos of sensations,—another kind, thus, of phenomenal world, one ‘unknowable’ to us. (9[106], KSA 12: 396)

Therefore, given that this is the only passage in which Nietzsche refers to the ‘chaos of sensation’, it clearly undermines Clark’s view that Nietzsche keeps his representationalism alive by considering such ‘chaos’ as the ‘true world’ we falsify: for he explicitly stresses that it, too, is just another sort of phenomenal world.

II.3) Hussain’s Machian account

An alternative account of Nietzsche’s sensualism has been delivered by Hussain, who interprets it as similar to Ernst Mach’s ‘monism’, a position according to which sensations are the basic elements of reality and ontologically neutral, i.e. neither physical nor psychical. On Mach’s account, empirical objects are clusters of such elements, having only a relative permanence and no substantial character. As Hussain convincingly shows, interpreting Nietzsche’s sensualism in terms of Machian monism achieves an important goal, since it avoids the two problems raised by Clark’s reading and sketched above.^{xiii}

Firstly, reading Nietzsche’s sensualism in Machian terms makes it compatible with the falsification thesis. For according to Mach, as long as we consider empirical objects as permanent substances, we do *falsify* sensations taken as the elements which ultimately constitute reality. In other words, Nietzsche would agree with Mach’s claim that the world as construed by our folks ontology is a ‘fictive’ world, as the following passage shows:

With the greatest respect, I will make an exception for the name of *Heraclitus*. When all the other philosophical folk threw out the testimony of the senses because it showed multiplicity and change, Heraclitus threw it out because it made things look permanent and unified. Heraclitus did not do justice to the senses either. The senses do not lie the way the Eleatics thought they did, *or* the way Heraclitus thought they did,—they do not lie at all. What we *do* with the testimony of the senses, that is where the lies begin, like the lie of unity, the lie of objectivation, of substance, of permanence... (TI, ‘Reason’ in *Philosophy* 2)

Here Nietzsche makes clear that sensualism applies only at the primitive level of sensations. Thus, this leaves the way open to the entire spectrum of falsifications we introduce by further processing the data of sensation and by structuring them into representations of permanent substances. Here, I am not saying that Hussain's Machian reading of TI should be accepted. Leaving a more detailed analysis for later,^{xiii} it is important to stress that Hussain's strategy provides an interpretation of Nietzsche's sensualism which is able to make sense of the falsification thesis as presented in passages like the one just quoted. In this respect, Hussain's interpretation clearly has a point if compared with that of Clark.

Secondly, a Machian reading allows us to make sense of the 'chaos of sensation' in a way which is more in tune with the textual evidence. For Mach, as his rejection of Kant's notion of the thing in itself demonstrates, is in no way committed to the idea that sensations are a kind of metaphysical 'true world', a view clearly denied also by Nietzsche in the unpublished note focusing on the 'chaos of sensation'.

Given that Hussain's reading gives a better treatment of both problems raised by Clark's interpretation, his general claim that we should read Nietzsche's late epistemology and ontology as a version of Machian monism creates nonetheless substantial difficulties on its own. I will briefly focus on the aspects relevant to the issue of Nietzsche's sensualism.

A first problem is posed by the sensation ontology to which it commits Nietzsche. Taking for granted that Nietzsche defended some ontology and that he conceived of it as being in some sense monistic, there is a general agreement about the fact that Nietzsche's ontology is not an ontology of sensations, but rather an ontology of powers.^{xiv} However, it is not clear how the Machian monism described by Hussain could correspond to such a Nietzschean ontology.

A second concern regards the claim (T2) made in BGE 15 according to which we have to assume that our sense organs are 'causes'. For a tension seems to emerge between the kind of 'concrete' causal power Nietzsche has in mind and the merely functional treatment of law-like interdependencies and processes endorsed by Mach.^{xv} Significantly, Clark's reading here provides a better account, since it interprets the sensualism of BGE 15 as the claim that sense organs are to be considered as standard empirical objects, which obviously possess and display 'concrete' causal powers.

Given the weaknesses of both Clark's and Hussain's interpretations, there are mainly four points an alternative reading has to clarify in order to deliver a more consistent solution to the puzzles posited by Nietzsche's sensualism: (a) to explain how Nietzsche can hold to the falsification thesis despite endorsing sensualism; (b) to make sense of the 'chaos of

sensation’; (c) to interpret the claim that sense organs are ‘causes’; (d) to situate sensualism within the frame offered by his theory of power. I will address (c) and (d) first. Then, in the last two sections, I will respond to (a) and (b).

II. Senses, causes and powers: making sense of BGE 15

II.1) Nietzsche’s target: the neo-Kantian frame

The *reductio* contained in the second part of BGE 15 is directed against a specific account of cognition that we can, generally, define as neo-Kantian. In particular, we can identify both a ‘narrow’ and a ‘broad’ target with which Nietzsche’s aphorism is concerned. The narrow ‘target’ is the Kantian-framed sense physiology fully developed by Hermann von Helmholtz and endorsed—to name two direct sources of Nietzsche’s thought on this point—by Friedrich Albert Lange and by Otto Liebmann.^{xvi} Indeed, the thesis attacked by the *reductio* corresponds almost certainly to the conclusion which Lange draws from the premises of Helmholtz’s physiological theory in his *History of Materialism*.^{xvii} The main argument of BGE 15, however, can be seen as addressing a more general neo-Kantian approach to perception and, in general, cognition, which is shared by a great part of the contemporary philosophical literature Nietzsche was acquainted with, for instance, by Afrikan Spir and Gustav Teichmüller.^{xviii} As Hussain notes, one significant common trait here is ‘the conception of the world of experience in phenomenalist terms as made up of sensations that come and go in various clusters according to their own laws’ (Hussain 2004: 342). The point of the *reductio* is thus that, once we situate such phenomenism into a neo-Kantian frame, it turns out to generate an inconsistency. Relevantly, what is dismissed by the sensualism proposed in BGE 15 is not the phenomenalist account *an sich*, but rather the commitment some of its supporters have to a neo-Kantian ontology and epistemology.

Given this sketchy picture of Nietzsche’s target, there are two more specific theories about perception developed within the ‘narrow’ frame of neo-Kantian sense physiology I would like to briefly introduce. Importantly, they are not theories Nietzsche needed to reject together with the neo-Kantian position endorsed by their proponents. Rather, they are relevant in order to better outline the historical context of his own account of perceptual content—a topic which will occupy us in part IV of the paper.

The first point concerns the treatment of sensory qualities made standard by Helmholtzian sense physiology. Helmholtz explicitly took over the principle first formulated by his teacher Johannes Müller, according to which each sensory channel disposes of a

‘specific sense energy’ responsible for the qualitative character of the corresponding modality. Given that the same stimulus can trigger, for instance, both a tactile and a visual sensation with the same representational^{xix} content—you can both feel and see the roundness of a tennis ball in your hand—the qualitative texture typical for a given sensation must depend on the sensory system by which it is produced. As Otto Liebmann stresses, Müller recognizes that the ‘qualitative content of our sensations’ bears no similarity with its physical causes, being, on the contrary, ‘subjective and phenomenal’ (Liebmann 1880: 40). This shows how the problem of qualitative content was treated by the dominant scientific view in Nietzsche’s time: the physical, i.e. mere quantitative, account of sensation was integrated by assuming a distinctive, quality-producing ‘specific energy’ for each sensory modality.

Also the second relevant point has been fully developed by Helmholtz. In order to explain how we come to take perceptual content as representing ordinary ‘things’, he argued that we transform ‘raw’ sensations into fully-fledged object-directed pictures of the world by means of ‘unconscious inferences’. Here, it is not important to follow this theory in detail. The significant aspect, rather, is that Nietzsche was not only familiar with, but also clearly endorsed a view according to which conscious mental content is the result of a series of unconscious cognitive operations that remain introspectively inaccessible. Again, this view will be relevant with regard to Nietzsche’s account of qualitative content.

For now, however, it is more urgent to keep in mind the general representational thesis shared by both the ‘narrow’ and the ‘broad’ version of neo-Kantianism, namely the view that the ‘things’ we experience are nothing but clusters of sensations—and *thus* nothing but ‘appearances’.

II.2) Appearances and causal powers

The central part of BGE 15 is the first one: here is where Nietzsche argues that we should accept, at least as a ‘regulative principle’, the position he calls ‘sensualism’. To start with, let us read these few lines again:

[1a] To study physiology with a good conscience, we must insist that the sense organs are *not* appearances in the way idealist philosophy uses that term: as such, they certainly could not be cause!

[1b] Sensualism, therefore, at least as regulative principle, if not as a heuristic principle.

How are we to understand this passage? A first point that can be made is that, as Clark suggests, ‘senses are causal conditions of knowledge’ (Clark/Dudrick 2004: 372): in order to ‘study physiology with a good conscience’—whatever it means—we need to recognize that sense organs are causally efficacious. Hence, this claim seems to be one of the core ingredients of the sensualism Nietzsche invites us to endorse. More puzzling is the argument underlying the first sentence of the aphorism [1a], which can be reconstructed as follows:^{xx}

P1) appearances cannot be causally efficacious

P2) sense organs are causally efficacious (= T2)

C) sense organs are not appearances

Nietzsche’s second premise (P2/T2) is that sense organs are causes, i.e. that they are causally efficacious in that they hold some causal power. Once we recognize this and if we accept P1, we are led to believe that a Kantian account is false (C). P1, however, remains quite obscure, as Hussain correctly remarks:

idealists in the transcendental tradition [...] find the claim being made quite peculiar. After all the domain concerning which causal claims are the most appropriate [...] is precisely that of the phenomenal world. The natural thing to say, if we are speaking in the ‘sense of idealistic philosophy’ might well be the following: ‘We must insist that the sense organs are phenomena otherwise they could not be causes (or at least not causes in any sense that we have a clear grip on)’.

This is actually a puzzle, and in my opinion both Clark and Hussain fail to explain what exactly Nietzsche had in mind by stating P1. Therefore, and also because it will help us to make sense of the claim that sense organs are causally efficacious (P2/T2), I will focus on it.

As Schmidt convincingly shows, the claim that ‘appearances cannot be causes’ occurs repeatedly in different *Nachlass* passages as a sort of shorthand formulation for a more elaborated thesis Nietzsche picked up from a book he intensively read in 1884 and 1885, namely Maximilian Drossbach’s *Über die scheinbaren und die wirklichen Ursachen des Geschehens in der Welt*, published in 1884.^{xxi} This should be hardly surprising, since the major goal of Drossbach’s work is to uncover a ‘fundamental error’ he views as pervasive in philosophy, i.e. ‘the principle of the causality of appearances (*Causalität der Erscheinungen*)’.^{xxii} My suggestion, hence, is that the examination of Drossbach’s position will give us the key to understand P1.

Drossbach starts by discussing Hume's and Kant's account of causality. To exemplify his point, let us take as an example the causal chain $A \rightarrow B \rightarrow C$. In his reconstruction, both Hume and Kant hold that A, B and C are representations or appearances. On Drossbach's construal, Hume, on the one hand, argues that we are not acquainted with the power (*Kraft*) which actually brings about the causal change, say, from A to B: we just perceive the switch from A to B as a temporal one, but such a temporal succession (*post hoc*) gives us no reason to postulate a causal relation (*propter hoc*). Kant, on the other hand, introduces the category of causality as a cognitive function which guarantees that the relation between A and B is not just a mere temporal succession, but a necessary causal connection. In Drossbach's view, however, the commitment to the wrong view that causality is a relation which obtains between appearances undermines both positions. The reason for this is that—so he argues—an ‘appearance is always a mere subjective mental state (*Gemüthszustand*)’ (Drossbach 1884: 4) and, consequently, has no causal power at all. In order to make sense of causality, however, we need genuine power, ‘active force (*wirkende Kraft*)’ (Drossbach 1884: 5). On Drossbach's view, Hume recognizes this point at least partially, as he holds that a causal relation must involve some ‘real’ power and that appearances have none. Unfortunately, from this premises he draws the wrong conclusion that our concept of causality is unwarranted. It is with Kant, though, that things get really bad in Drossbach's view. For since he purges causality from the intervention of any genuine power, Kant—‘in order to explain the causal connection between appearances’ (Drossbach 1884: 9)—needs to postulate an *ad hoc* cognitive device, i.e. the category of causality.

What, then, does Drossbach's own proposal look like? As noted before, appearances are for him just pictures ‘in the head’ that cannot be causally efficacious. Therefore, the only sound position is to consider them not as ‘causes’, but rather as ‘caused’ by external ‘things’ affecting our cognition: in Drossbach's phrase, being the effects that ‘real’ causal powers display by acting on our sense organs, appearances *have* a cause, but *are* themselves no cause.

This position has important implications for Drossbach's account of sensation that can be highlighted by considering a simple example: a red apple there on the table. Drossbach shares the view that qualities such as the redness of the apple are mind-dependent. However, if we accept this, we must conclude—so Drossbach argues—that it makes no sense to say that we perceive the apple's redness, since redness is just an element of our actual mental content. What we actually perceive is rather a force or power which affects our visual apparatus in such a way that, put roughly, it ‘triggers’, *inter alia*, our mental content ‘redness’. Moreover,

since the ‘apple’ is on this view a mere mental object, a ‘sum of sensations’ (*ibid.*: 12), we should not say, in general, that we perceive the ‘apple’, but rather a causal power which affects us so as to produce the mental content ‘apple’. Consequently, the ‘things’ acting on us *cannot* be for Drossbach ordinary empirical objects. Rather, he proposes a neo-Leibnizian metaphysics according to which the basic elements of reality are ‘power substances’ (*Kraftsubstanzen*) able to display ‘real’ causality.

This brief excursus strongly indicates that it is Drossbach’s refusal of Kant’s account of causality which underlies the most problematic premise (P1) of the argument contained in BGE 15. It follows, thus, that Nietzsche does not consider causality as a link cognitively drawn between ‘pictures in the head’, as assumed by Kant.^{xxiii} On the contrary, he conceives of causality in terms of ‘concrete’ power exchange. Accordingly, mental images—representations or appearances—are not the right kind of things to be thought of as causally interwoven, for they simply lack the power required by any form of causality. Moreover, neither Mach’s clusters of elements nor ordinary empirical objects are, too, more suitable candidates, for they are—in the relevant respect^{xxiv}—tantamount to Drossbach’s ‘sums of sensations’. This indicates, therefore, that both Hussain’s and Clark’s readings fail to correctly recognize the notion of causality which substantiates Nietzsche’s sensualism.

Surely, there are some aspects which remain obscure. In particular, Drossbach’s account seems to create two crucial problems for the sensualism of BGE 15. Firstly, Drossbach too—as we have seen—considers empirical objects as ‘appearances’. A first problem, therefore, is how to reconcile this with Nietzsche’s refusal of ‘idealistic’ appearances as stated in BGE 15. Secondly, the role of Drossbach’s ‘power substances’ remains unclear. Are we to suppose that by assuming P1 Nietzsche commits himself to an ontology akin to Drossbach’s one? These are pressing problems I will deal with in the following section. For now I would like to make an initial assessment.

Reading P1 as sustained by Drossbach’s argument against Kant’s account of causality helps to make sense of Nietzsche’s critique against both the ‘narrow’ and the ‘broad’ neo-Kantian target. For, as it takes causality to be a relation which obtains only between appearances, the neo-Kantian position cannot account for the obvious fact that there is a *causal* story which *produces* our sensations and involves *both* our sense organs *and* the outer world—which is precisely the point Nietzsche urges us to appreciate in order to ‘do physiology with a good conscience’. Thus, working out exactly how he conceives of such a causal story will help us to further flesh out his sensualism.

III) Grounding sensualism

III.1) Two kinds of sensualism

As already stressed at the end of the previous section, there is a central aspect in which Drossbach's position seems very close to the neo-Kantian one rejected in the second part of BGE 15, namely the account of empirical things as appearances. This point is crucial. For, if we consider that our body and our sense organs are empirical things, according to Drossbach we should conclude that they are appearances. This seems to suggest that his theory, too, would succumb to the *reductio* Nietzsche addresses to the Kantian-framed sense physiology of Lange and Helmholtz. Importantly, Clark's realistic account of empirical objects makes sense of our sense organs being causally efficacious *without* raising this problem. An accurate treatment of this question is thus urgent.

As Hussain already observes, a first thing to note is that the open question with which the aphorism ends seems to be a rhetorical means to induce the reader not to come to an 'obvious response' (Hussain 2004: 354). To make sense of Nietzsche's cautiousness, one could point out that his late perspectivistic epistemology does not *completely* dismiss the claim defended by the neo-Kantians that our cognition returns to us a falsified reality. Rather, he needs to redefine this claim within a new framework. In Nietzsche's view, thus, there is a sense in which we are correct in underscoring the *Scheinbarkeit* of our experience. Lanier Anderson sets the scene accurately:

[P]erspectivism insists that something about the structure of a cognitive subject [...] gives the world a certain 'look', or appearance, for her, and that we are in error when we treat such appearances as adequate representations, or copies, of the structure of some world independent from the operations of perspective. How can Nietzsche deploy the appearance/reality and subject/object distinction in this way, and yet avoid the consequence that the cognitive organization of the subject as we know it (i.e. as it appears from the perspective) end up causing its own fundamental structure as appearance? (Lanier Anderson 2002: 107)

My suggestion regarding the problem perspicuously framed by Lanier Anderson is that in BGE 15 Nietzsche is proposing a *qualified* sensualism^{xxv} radically different from the *folks* sensualism which takes ordinary empirical objects to constitute a completely mind-independent world. In other words, Nietzsche's sensualism should not be conflated with

common sense realism. To support this view I will analyse Nietzsche's differentiated use of the term 'sensualism' in BGE.^{xxvi}

Significantly, the kind of folks sensualism Nietzsche does *not* want us to endorse is described in the aphorism which immediately precedes BGE 15. The text begins as follows:

Now it is beginning to dawn on maybe five or six brains that physics too is only an interpretation and arrangement of the world (according to ourselves! If I may say so) and not an explanation of the world. But to the extent that physics rests on belief in the senses, it passes for more, and will continue namely for an explanation, for a long time to come. It has visual evidence and tangibility as its allies. (BGE 14)

Nietzsche contrasts here a subtle and esoteric understanding of physics, which considers it as an 'interpretation' of the world, with the standard view according to which physics 'explains' the world. This second view is said to 'instinctively follow[...] the canon of truth of the eternally popular sensualism', which naïvely accepts the testimony of the 'visual evidence (*Augenschein*)' (*ibid.*). Nietzsche affirms that such common sense realism is suited—together with the ironically depicted 'sturdy, industrious race of machinists and bridge-builders of the future'—to the 'Darwinians and anti-teleologists who work in physiology' (*ibid.*).

Prima facie, this seems to confirm Clark's reading according to which the sensualism to be adopted as a 'regulative principle' in order to do 'physiology with a good conscience' (BGE 15) coincides thoroughly with the 'popular sensualism' which underpins the research performed by the 'Darwinian and anti-teleologists who work in physiology' (BGE 14).^{xxvii} Nietzsche, thus, would invite the physiologists who endorse the dubious neo-Kantian epistemology to switch to a more solid empirical realism.

Yet, on a closer view Clark's hypothesis appears less convincing. A first problem is raised by the 'five or six brains' who—according to Nietzsche's own rhetorical emphasis in BGE 14—seem to hold the wisest position.^{xxviii} Why, then, should Nietzsche not be willing to induce us to endorse the same view? This question becomes even more compelling if we consider that Nietzsche often criticizes physics *precisely* for having 'our eyes and our fingers as allies' (BGE 14). A good example is BGE 12. Here, Nietzsche praises the work of Joseph Boscovich for having disproved the traditional 'materialistic atomism':

While Copernicus convinced us to believe, *contrary to all our senses* [my italics], that the earth does *not* stand still, Boscovich taught us to renounce belief in the last bit of

earth that did ‘stand still’, the belief in ‘matter,’ in the ‘material,’ in the residual piece of earth and clump of an atom: it was the greatest *triumph over the senses* [my italics] that the world had ever known. (BGE 12)

Nietzsche underscores that two of the most striking accomplishments of modern science were achieved by overcoming the ‘visual evidence’ (*Augenschein*) (BGE 12). This indicates that the physical theory described in BGE 14 has having ‘visual evidence and tangibility’ (BGE 14) on its side is akin to—if not identical with—the ‘materialistic atomism’ attacked here. Hence, a conclusion we can draw is that Nietzsche considers the science committed to the ‘popular sensualism’ depicted in BGE 14 as being a bad one, still tangled in the untenable, naïvely realistic presuppositions of materialistic mechanism.

Further support for this reading is provided by comparing the final version of BGE 15 with a previous draft which only comprises the first part of the published aphorism:

To study physiology we must believe that sense organs are not merely appearances (*nicht Erscheinungen bloß sind*): as such, they certainly could not be cause. Thus: sensualism as regulative principle, as we have it in life. No one takes a beefsteak to be an appearance. (KSA 14: 350)

This previous version of the text published in BGE makes clear that for Nietzsche, in order to make sense of the causality our sense organs indisputably display, we have to assume that they are not ‘merely appearances’. This, however, does not imply that sense organs are not appearances *tout court*. Nor is this claim implied by BGE 15, for here the dismissal of the view that sense organs are appearances targets exclusively a specific reading of such view, namely the one which reads ‘appearances’ in the idealistic sense of the term. Therefore, Nietzsche does not exclude that there is a reading of the phenomenalist claim that ‘things’ are appearances which turns out to be correct. Simply, in order to avoid the contradiction unveiled by the *reductio* in the second part of the aphorism, we have to drop the neo-Kantian declination of this claim.

The upshot, thus, is that Nietzsche’s sensualism is not to be conflated with the ‘popular’ one described in BGE 14, since such a naïvely materialistic folks sensualism has not only already been philosophically rejected by the arguments provided, for instance, by Schopenhauer and Lange, but also—and more relevantly—does not even jibe with the views favoured by the subtlest scientists of his time. Hence, Nietzsche does not want us to resume a

view already dismissed, but rather to endorse a qualified form of sensualism which would also suit the more refined, Boscovichian philosophy of science approvingly alluded to at the beginning of BGE 14 and explicitly subscribed to in BGE 12. Yet, how can we accurately describe the qualified sensualism that Nietzsche has in mind in BGE 15?

Since he links folks sensualism and materialistic mechanism tightly together, a straightforward hypothesis—as suggested by Small—is to consider his own qualified sensualism as bearing some deep affinity with the anti-materialistic, dynamical, Boscovichian view praised in BGE 12:

Nietzsche's reading in natural science had convinced him that the dynamic physics of Boscovich, recently renewed in Faraday's development of the new science of electricity, would replace materialism in its older form. Neither Boscovich's 'points of matter' nor Faraday's 'centres of force' could be identified with the solid particles of Boyle's atomism; but more important, neither could be pictured by analogy with the familiar objects of everyday experience, known through the senses. (Small 1999: 75)

Driving back to the problem of how to make sense of the claim that sense organs are 'causes' (T2), the problem which now presses us, thus, is to figure out *how* sense organs are causally efficacious *within* such a Boscovichian worldview. More precisely, the challenge is to explain the causality of sense organs given that we *cannot* conceive of them as ordinary empirical things. This is the topic of next section. There, we will also have the opportunity to handle the second question raised by a Drossbachian reading of BGE 15, namely what kind of ontological commitment it imposes on Nietzsche.

III.2) The 'measuring we call sensation': ecological frame and 'physical grounding'

In the last section I argued that, by reading BGE carefully, a differentiated use of the term 'sensualism' soon emerges. This substantiates the claim that Nietzsche is proposing a *qualified* version of sensualism not to be equated with a form of common sense realism which takes empirical things to be completely mind-independent entities. Though, it still remains unclear how, within the frame of this qualified sensualism, we are to interpret the claim that our sense organs are causally efficacious (T2).

In order to better frame this question, consider first the second problem raised by a Drossbachian reading of BGE 15. Are we to conclude that Nietzsche, too, is committed to an ontology similar to the one underlying Drossbach's view? Well, it depends on how we

understand “similar”. Since Nietzsche notoriously rejects the very notion of substance, he is surely not endorsing a ‘power *substances*’ ontology like the one proposed by Drossbach. Here, thus, we encounter a fundamental difference. There is, however, a crucial respect in which we are likely to expect a substantial ‘similarity’ of view. To appreciate this, compare Drossbach’s neo-Leibnizian metaphysics with the Boscovichian picture of the world praised in BGE 12 and presumably also substantiating Nietzsche’s sensualist claims. Despite several fundamental differences, both defend the view that reality is ultimately constituted by force or power centres. Importantly, this common denominator is also shared by Nietzsche’s theory of the will to power: indeed, it is most likely that both Drossbachian metaphysics and Boscovichian physics served as models to his own *Machtquanta* theory.^{xxix}

My strategy, thus, will be to exploit the frame offered by this theory by arguing that sense organs are the ‘interface’ through which a particular class of power ‘groupings’, namely organisms, causally interact with the world, i.e. with other power ‘groupings’. This will explain how sense organs are causally efficacious (T2) without coinciding with the ‘things’ of our common sense ontology. Simultaneously, it will also provide us with the key to the claim that senses ‘do not lie’ (T1).

To start pursuing this strategy, let us analyse following passage from *Twilight of the Idols*, which offers the most informative description to be found in Nietzsche’s late work of how sense organs function:

—And what excellent tools for observation we have in our senses! Take the nose, for instance—no philosopher has ever mentioned the nose with admiration and gratitude, even though it is the most delicate instrument we have at our disposal: noses can detect tiny differences in motion that even spectroscopes do not notice. (TI, ‘*Reason*’ in *Philosophy* 3)

This passage is crucial in many respects. Firstly, it immediately follows the aforementioned aphorism where Nietzsche affirms that our senses ‘do not lie’. Thus, this passage has to be read as an exemplification of the preceding, general claim: it illustrates in which sense our sense organs ‘say the truth’.^{xxx} Secondly, Nietzsche compares the activity of our sense organs—the ‘nose’ represents here the entire class—with the operating of a measurement instrument. This clarifies how he believes them not to lie: sense organs accurately ‘detect’ modifications in the surrounding environment. Here we have therefore a key to properly grasp the view that sense organs are causes (T2): by capturing and responding to the action

exerted by external powers, they allow us to keep track of the changes occurring in the outer world.

In order to better spell out how Nietzsche understands the ‘measuring’ operated by our sense organs, let us consider an aphorism from Nietzsche’s ‘middle period’ where the same metaphor occurs.

In Prison—My eyes, however strong or weak they may be, can see only a certain distance, and it is within the space encompassed by this distance that I live and move, the line of this horizon constitutes my immediate fate, in great things and small, from which I cannot escape. Around every being there is described a similar concentric circle, which has a mid-point and is peculiar to him. Our ears enclose us within a comparable circle, and so does our sense of touch. Now, it is by these horizons, within which each of us encloses his senses as if behind prison walls, that we *measure* the world, we say that this is near and that far, this is big and that small, this is hard and that soft: this measuring we call sensation. (D 117)

The picture Nietzsche provides in this aphorism clearly suggests that he endorses an *ecological*^{xxxii} view of perception and, in general, cognition. To begin with, he stresses that we are the focus of a perceptual sphere defined by the limited detection powers of our senses. Moreover, he claims that the constitution of this perceptual sphere depends on the very nature of our sense organs: we can ‘measure’ the world only so far as they can reach.^{xxxii} Every organism, thus, is the focus of its own representational world, shaped by the concrete, embodied configuration of its perceptual apparatus. However, there is more than this: a closer look at the genesis of this aphorism indicates that Nietzsche’s ecological view of cognition is rooted in the broader frame provided by the force ontology he found exposed in the book *Der heliocentrische Standpunkt der Weltbetrachtung*, by Alfons Bilharz, a Schopenhauerian physician and enthusiastic reader of Nietzsche’s early works.^{xxxiii}

In 1879 Bilharz sent to Nietzsche the aforementioned, freshly published work proposing a revision of Schopenhauer’s monistic conception of the will. Despite Nietzsche’s reading of this book having received virtually no attention, it contributed crucially to the genesis of some key aphorisms of the *Daybreak* dealing with epistemological questions, in particular numbers 117 and 118. Bilharz suggests that Schopenhauer was right in considering the relation between subject and object as the initial standpoint any serious philosophical attempt has to assume. In his eyes, however, Schopenhauer remained fatally committed to the

‘geocentric viewpoint’, as he considered human beings as the exclusive subjects to which the entire world relates as an inert objectivation. On the contrary, Bilharz argues that the subject-object relation is reversible: every creature can be considered as the subject, as the focus around which the rest of the world ‘rotates’. Hence, if one accepts the switch to the ‘heliocentric viewpoint’ suggested by Bilharz, it follows that there is no unique, all-embracing Schopenhauerian will, but rather a multitude of will/force centres mutually interacting with each other.^{xxxiv} Every creature is thus ‘the mid-point of a force sphere which pervades the infinite space’ (Bilharz 1879: 95), a view almost literally co-opted by Nietzsche, who affirms that ‘[a]round every being there is described a similar concentric circle, which has a mid-point and is peculiar to him’ (D 117). This sphere traced around each being is delimited by the reach of the powers it possesses: in Bilharz’ own terms, it is margined by the ‘obstacles’ (*Hemmungen*) provided by the action of other beings. Therefore, according to this view which Nietzsche endorses in D 117, reality is constituted by will/force centres entertaining powers in relation to the world external to them.

Given this, it is tempting to place the description of how sense organs work given in TI into the broader frame provided by D 117. Yet, there is apparently a good reason for resistance. For the ecological account of cognition as well as the Bilharzian force ontology to be found in the *Daybreak* are still committed to a neo-Kantian approach, as the ending of aphorism 117 as well as the assumptions implicit in the epistemological considerations made in aphorism 118 clearly show.^{xxxv} This is a striking difference with regard to the sensualism defended in BGE 15, since the last one contrasts explicitly with the neo-Kantian position. How are we to interpret this change? By abandoning the neo-Kantian frame of D 117, does Nietzsche dismiss also the ecological understanding of perception, according to which our sense organs work as a representational interface between us and the outer world? And does he also abdicate the underlying ontological assumption that organisms are to be seen as specific kinds of highly complex force centres? To both these questions, it seems to me, the correct answer is No.

Firstly, the fact that as late as in *Twilight of the Idols* Nietzsche again compares perception to measurement seems to indicate that he is holding a position which retains some crucial elements of the view exposed in the *Daybreak*—a comparison, *nota bene*, which underscores a point which is at the heart of the ecological account endorsed in the earlier work. Secondly, recall that the Bilharzian—and, *mutatis mutandis*, also Drossbachian and Boscovichian^{xxxvi}—core assumption according to which the world is constituted by power or force centres is retained by Nietzsche and seamlessly carried over into his later power

ontology. Therefore, this speaks strongly in favour of a fundamental continuity in his view. To spell out this clue will be the task of the remaining part of this section, where I will show that Nietzsche redefines the ecological view of perception defended in D 117 in accordance with his later theory of the will to power. In particular, I will focus on the ontology of *Machtquanta* he fragmentarily sketched in the years 1887-1888, arguing that it here provides the new frame.

According to the late Nietzsche, as its most basic level reality is to be understood as constituted by *Machtquanta*, i.e. power or force aggregates. Relevantly, there is a crucial aspect in which such *Machtquanta* differ from Bilharzian, Drossbachian and Boscovichian force centres: they do not have any ontologically *intrinsic* core. This point is made clear by an important note where Nietzsche explicitly counters ‘mechanism’. There, he resumes the critique of BGE 12 and 14, according to which materialistic atomism is naïvely construed out of the evidence provided by vision and touch. Interestingly, Nietzsche extends this criticism also to the Boscovichian ‘dynamic atom’, arguing that it is still conceived of as a “‘thing’” which ‘acts (*wirkt*)’ (14[79]: KSA 13: 258). At the end of the day, thus, even the purely mathematical, extensionless force centre turns out to be derived from the human-specific ‘language of the senses’ (*ibid.*). In order to avoid any commitment to the folks ontology induced by the prejudices of our senses, dynamical atoms are thus to be replaced by dynamical quanta:

Once we have eliminated these ingredients, it is not things what remains left, but rather dynamical quanta in a tension relation to all other dynamical quanta, the essence of which consists in their relation to all other quanta, in their ‘acting’ (*Wirken*) upon these. (14[79]: KSA 13: 259)

The difference stressed in this passage also applies to the metaphysical force substances posited by both Bilharz and Drossbach. For Nietzsche rejects the view that power clusters have a substantial, intrinsic nature over and above the power relations they entertain with the other power groupings. On the contrary, the ‘essence’ of a *Machtquantum* is constituted precisely by the concrete net of such mutual power relations.

Notably, the power ontology briefly sketched here provides a new basis also for Nietzsche’s account of cognition. Regarding this point, he maintains that every ‘force-centre’ (*Kraftzentrum*)—not only the man—spontaneously construes the entire remaining world’ (14[186], KSA 13: 373). This clearly indicates that the late Nietzsche still endorses the

‘heliocentric viewpoint’ proposed by Bilharz: our representational world is an ecological construal which depends on the way in which we are embedded in the environment. In particular, two aspects of our relation with the outer world can be stressed. Firstly, on an evolutionary scale our cognition has been modelled by the constraints imposed on us by the environment. Our picture of the world, thus, is the result of a specific adaptive history. Secondly, at the level of individual organisms, we are provided with cognitive tools which enable us to keep track of what is going on in the external world and to act accordingly. This second aspect seems to me the relevant one for the issue discussed here, since it is at this level that the description of sense organs as measurement instruments obtains. Crucially, this is also the point in which Nietzsche’s theory of the will to power can help us make sense of both Nietzsche central claims (T1 and T2).

Firstly, this theory provides a broader frame for the claim that our sense organs are ‘causes’ (T2), since we can consider the causal engagement they allow us to entertain with the world as a specific form of power relation. Thus, the ‘concrete’ causality we have been looking for is precisely the one Nietzsche puts at the core of his notion of will to power. This has two crucial consequences. On the one hand, we can now grasp in which respect our sense organs—like all other ‘things’—are *not* ordinary empirical objects as according to common sense realism. For taken at the level of basic ontology they are, too, specific power ‘groupings’ functionally integrated in larger *Machtquanta* configurations (organisms). On the other hand, we are able, at the same time, to make sense of the fact that they ‘look’ the way they do, i.e. as ordinary empirical objects, without committing ourselves to a neo-Kantian theory of appearances. Consider how my left hand ‘looks’ to me visually. Here, Nietzsche’s sensualism allows the most straightforward explication: my visual perception of my left hand *as* a ‘thing’ with such-and-such properties (shape, texture, colour, etc.) depends on a causal interaction between my hand and my eyes which is most properly described at the basic level of physics (optics). Now, according to Nietzsche we won’t come across any *ordinary* empirical object at *this* level, as Boscovichian physics has already taught us. Rather, he suggests, what we would find is nothing but *Machtquanta*—or better, ‘groupings’ thereof. Of course, one could reply that the proposed reading builds Nietzsche’s sensualism into a quite fancy metaphysics. Well, I am not sure that the qualification as ‘fancy’ is justified, but I won’t contest it here. The point I want to make is rather that seeing Nietzsche’s sensualism as being grounded in his power ontology is the best strategy to consistently make sense of his quite puzzling claims. Importantly, it also gives us a clue as how to account for the kind of *Scheinbarkeit* he still sees as a prominent feature of our picture of the world.

Secondly, Nietzsche's power ontology also motivates the view according to which we should trust our senses (T1). For if their 'measurement' of environmental factors is causally grounded in power relations, we have good reasons to think that it is *reliable*. In other words, since sensations are causally *warranted* responses to external stimulation, it makes no sense to say that they falsify reality. This point is crucial, yet in need of further elucidation. To illustrate it, consider a simple example: the sensation of heat we normally have by touching a pan set on the fire. The sensation of heat is a response to the causal interaction between my hand and the hot pan, say, to my accidental grasping of the pan and the subsequent damage of some skin tissue. Therefore, it is determined by the occurring causal connection—in Nietzsche's own words, the power relation—between my hand and the pan. Of course, one might raise at least two objections against this position. Firstly, there are cases in which external stimulation is neither a necessary, nor a sufficient condition for a sensory response, like, for instance, hallucinations or pain agnosia respectively. In such cases, however, some element relevant for the causal story which applies to the described example is actually missing. Thus, they provide no pertinent counterexample to the proposed account. Secondly, this account seems to leave the qualitative side of our experience completely aside. To put it in the terms of current philosophy of mind, it explains how sensations are produced in purely functional terms, i.e. by considering only their informational import and thus by fully ignoring their phenomenal content. Since I will deal with the problem of phenomenal content in the next section, a brief remark should suffice for now. As the comparison with measurement instruments suggests, the point of the passage from TI actually indicates that here the focus is precisely on the causal, functional side of the problem. For sense organs—as long as they are considered as measurement instruments—do *in fact* operate as purely functional devices. Moreover, this treatment is also in tune with the qualified sensualism proposed in BGE 15, according to which we have to consider sense organs as 'causes'.^{xxxvii} A third problem is that, on this account, the sensations provided by sense organs are *necessarily correct*, for they are always created by some causal chain. Again, even if this might seem *prima facie* quite an odd view, it seems to be exactly the point Nietzsche wants to make. After all, he is arguing that senses *never* lie, and that falsification first comes into play only once we have manipulated their testimony. And, again, this is confirmed by the measurement instrument picture. For it makes less sense to say that a thermometer delivers *incorrect* information, given that it works under normal conditions.

In order to better clarify Nietzsche's position, I think it will be helpful to reformulate it in terms of the so-called 'physical grounding' approach to the problem of content. The

question addressed by this approach is how to draw the distinction between symbols which genuinely represent something and those which do not. The ‘physical grounding’ answer to this problem is that a symbol is to be considered as genuinely representing ‘p’ only if ‘p’ is ‘physically grounded’, i.e. only if it has been acquired through causal interaction with the environment.^{xxxviii} Let me illustrate the point by considering two different cases. Firstly, consider a thermometer measuring the temperature of a room. As I have already pointed out, there is a sense in which the temperature value, say ‘22 °C’, *cannot lie*, for it is the result of a causal, physical process which immediately links thermometer and external world. Secondly, consider a computer which runs a thermal building simulation software programme. Numerical values like ‘22 °C’ can be surely codified, entered and thus symbolically manipulated: however, there is no causal interaction here between the computer and the relevant feature of the real world, i.e. the temperature of the room. In this case, the value ‘22 °C’ is not physically grounded.

Now, compare these two cases with the one of a child playing with a yellow ball. The mental content ‘yellow ball’ we can ascribe to the child is acquired through the actual sensorimotor encounter with—i.e. perceptual-exploration and purposive handling of—the yellow ball. Therefore, both the numerical value ‘22 °C’ displayed by the thermometer and the mental content in the child’s head are physical grounded, i.e. both are the result of an occurrent causal story. There is of course a fundamental difference between the thermometer and the child, for we can assume that only the second has genuine mental content: on the contrary, the symbol ‘22 °C’ we read on the measurement device’s display lacks any form of mentality. Leaving this aspect for the next section let me focus on the similarity—for Nietzsche’s comparison between sense organs and measurement instruments seems to make precisely this point. Gauging values as well as sensations are ‘grounded’ by virtue of concrete causal relations which obtain between physical systems—measurement devices and organisms respectively—and their own environment.

To conclude this section, let me briefly recapitulate where we have gone so far. Firstly, I worked out the broader, ecological view of cognition in which Nietzsche’s sensualism is to be framed. As indicated by D 117, this view is rooted into a force ontology which the late Nietzsche reformulates according to his own *Machtquanta* theory. Secondly, once we have located Nietzsche’s sensualism within this ecological frame, we are in a good position—I argued—to make sense of its two main claims: sense organs are causally efficacious (T2) in being the ‘devices’ by which power exchanges between organisms and

environment are modulated; senses ‘do not lie’ (T1) because their outputs are ‘physically grounded’ responses to environmental inputs.

Yet, two points still need to be addressed and explained. The first one has already been mentioned earlier in this section and regards Nietzsche’s position on the qualitative content of sensation: is he an eliminativist who simply denies that anything like the ‘phenomenal’ exists, or does he on the contrary accept it? And if so, how does he account for it? The second point was introduced at the beginning: how are we to make sense of the falsification thesis and, in particular, of Nietzsche’s idea of a primitive ‘chaos of sensation’ upon which such falsification operates? Part IV will deal with these two questions.

IV) Qualitative content

IV.1) Sensualism and sensory qualities: a place for phenomenal content

In this section I will deal with the first of the two problems referred to at the end of the last section, namely the problem of phenomenal content. The key point is that the ‘physical grounding’ account Nietzsche endorses does not grasp the difference between the way a sensor *discriminates* ‘red’ and the way human beings or other animals *sense* ‘red’, since it focuses only on the functional side of the problem. Nietzsche, however,—as almost everyone else—seems to believe that the phenomenal, qualitative aspect of sensation and, in general, of experience requires an appropriate explanation. In the *Gay Science*, for instance, he once more criticizes the mechanistic worldview for being “the *stupidest* of all possible interpretations” (GS 373: 239), as it reduces reality to mere quantitative processes, thus conceiving of it as ‘an essentially *meaningless* world’ (*ibid.*). The ending of the aphorism serves to exemplify his point:

Suppose one judged the value of a piece of music according to how much of it could be counted, calculated, and expressed in formulas—how absurd such a ‘scientific’ evaluation of music would be! What would one have comprehended, understood, recognized? Nothing, really nothing of what is ‘music’ in it! (*Ibid.*)

This passage indicated that Nietzsche—unsurprisingly!—takes *auditory experience* to be the heart of music. Of course, it is possible to deliver an acoustic description of a piece of music or, more interestingly, to encode its musical content in ways which allow it to be written on

and retrieved from different supports. Nietzsche's point, however, is that all this gives us not even the merest hint of its aesthetical value, as music—literally—is something *qualitative* I can attend to only by actually listening to it, by experiencing it in first-person modality. How, then, are we to situate the qualitative aspect of experience within the frame of his sensualism?

In an unpublished note from 1880 Nietzsche clearly picks up Bilharz's force ontology and develops some considerations on perception which prelude what he will write in D 117:

Given that there are innumerable *sentient* (*empfindenden*) points in the being (*Dasein*): everyone has a sphere *how far* and *how strong* it perceives relations, i.e. a sphere of limitation and error. Similarly, every force has its sphere, it acts that far and that strong, and on this and that, but not on that other; a sphere of limitation. (6[441], KSA 9: 312)

In this note—like in D 117, as examined before,—Nietzsche describes the representational world as construed by our perceptual apparatus *in analogy* to the sphere which—according to Bilharz—is drawn by the force emanating from every being. In particular, he seems to understand perceptual experience as a specific kind of 'concentric circle' which *only* sentient beings trace around them. The unpublished passage, however, alludes to a remarkable asymmetry in this parallel which slips away in the printed aphorism. While the sphere of mere physical force is said to be solely of 'limitation', the perceptual circle surrounding a sentient being is also a sphere of 'error'. *Prima facie* it might seem less plausible to give much weight to this point. After all, the passage we are reading is a notebook entry and the asymmetry I pointed out might well be a rather unreflected, indeed casual textual trait. Nonetheless, a further note from 1881 confirms that the asymmetry is not accidental. There, Nietzsche traces a clear demarcation line between the 'dead', inorganic world and the sentient, organic one. On the one hand, since in the inorganic world interaction occurs exclusively as 'force against force' (11[70], KSA 9: 468), there is no chance for 'errors' to emerge: the causal story, here, is the only one we can tell. On the other hand, in the 'sentient world everything [is] false and obscure' (*ibid.*). It is not completely clear what Nietzsche has here in mind. A good candidate, however, is the fact that phenomenal experience emerges and gradually develops in parallel to sensitivity. In other words, Nietzsche seems to think that, once 'sensing' organs have evolved, the modification they are exposed to by the action of external powers originates not only a functional, physiological response, but also qualitative, mental content.

Even if Nietzsche does not defend this view in his published works, he revisits it again in several other notebook passages. Consider, for instance, the following one:

The passage from the inorganic to the organic world is the passage from definite perceptions of force values and power ratios to *unsure, undetermined* ones—for a multiplicity of beings fighting each other (= protoplasm) feels itself as facing the external world (*der Außenwelt gegenüber*). (35 [59], KSA 11: 537)

Here, Nietzsche seems to suggest that the higher complexity of organisms is responsible for their ‘mediated’ response to external stimulation: being hierarchically structured coalescences of multiple sub-clusters, organisms require a more elaborated interface to cope with the surrounding environment. More relevant for our problem, however, is the transition to a world, the organic one, in which the quantitative aspect of causal interactions does not tell us the whole story.^{xxxix} For organisms, as sentient beings, have a first-person access to the causal processes they are involved in which is qualitative in exactly the same way our *feeling* the pressure and the coldness of a steel bar in our hands is:

Qualities are our insuperable boundaries; we cannot in no way avoid to sense mere quantity differences as something fundamentally different from quantity, namely as qualities, which are no more reducible to one another. [...] It is evident, that every being different from us senses other qualities and, consequently, lives in another world as the one in which we live. (6[14]: KSA 12: 238)^{xl}

This last passage makes at least three different points. Firstly, Nietzsche claims that we, as well as all other organisms, perceive quantitative differences as qualitative ones. Colours are a good illustration of what he has in mind: the same qualitative colour experience corresponds to different patterns of stimulation—a particular instance of the ‘specific energy’ law which, according to Johannes Müller, is responsible for the peculiar qualitative texture of each sensory channel.^{xli} Secondly, each quality is a discrete element that cannot be reduced to other qualities. Here, Nietzsche seems thus to treat qualitative content as consisting of qualia. Thirdly, phenomenal content is an essential ingredient of the way in which we cognitively construe our picture of the world. This suggests that the ‘perceptual circle’ surrounding every sentient being is not a mere representational world. Rather, and crucially, it is a world of *experience*.

Given Nietzsche's claim that our experience has a fundamental, irreducible qualitative character, one could argue that this feature delivers the relevant reason for holding the falsification thesis. On this reading, phenomenal content would introduce a basic form of falsification by being a subjective, idiosyncratic content generated by the species-dependent sense organs of a certain organism. As Lanier Anderson puts it, 'conscious apprehension somehow transforms the contents originally given via unconscious perceptual states' (Lanier Anderson 2002: 109). On the one hand, Nietzsche's description of the 'sentient world' as 'false and obscure' and pervaded by 'error' strongly speaks in favour of this reading. Moreover, it is quite hard to deny that Nietzsche held this position in the *Daybreak*, for there he explicitly refers to the 'lies and deception of sensation' (D 117). On the other hand, this view seems to contradict the first claim (T1) crucial to his sensualism, according to which we have to 'trust our senses'. Here we are confronted with a tension not easy to resolve.

A strategy would be to argue that our sensations 'say the truth' *only as long as* they are 'physically grounded' in the sense illustrated in the section before. To make this point clear, consider again the case of my grasping the hot pan. Here—one could stress—what makes my sensation of heat *reliable* is the fact that it encodes the information of my hand being burned by touching the pan in a functionally appropriate way. The qualitative component of my heat sensation, though, would play no role in the causal story I could tell about my burned hand. For it is possible to imagine a case in which one has a sensation of heat with a qualitative content that is radically different from mine and nonetheless properly reacts by retracting her hand from the pan. To exploit a scenario which has been often evoked in contemporary philosophy of mind, on this reading Nietzsche's sensualism would equally apply to myself and to my behaviourally identical, though experience-less zombie twin.^{xliii} In other words, the only sense in which we were to trust the outputs of our sense organs is because they are devices that—due to proper causal interaction—detect what is going on in the world and hence allow us to act adequately. On the other hand, and importantly, this picture would allow for sensory content being counterfeited through its becoming phenomenally conscious and thus provide room for the falsification thesis.

Although good textual evidence and sound systematical reasons could be adduced in favour of this reading, I find it less palatable. For it eventually amounts to the view that our senses—at least in some sense—*do* operate a falsification, which clearly contrasts with Nietzsche's *strong* claim that 'they do not lie *at all*' (TI, '*Reason*' in *Philosophy 2*, my italics). Thus, if we are to make sense of this claim we have to hold that the later, 'sensualist' Nietzsche considers qualitative content, *too*, as free of any cognitive forgery and

consequently dropped the view—still defended in the *Daybreak*—that sensory qualities ‘lie’ since they are phenomenally conscious.

An indirect but important piece of support for this interpretation comes from Nietzsche’s reaction to the theory of sensation formulated by Otto Schmitz-Dumont, a physicist who is probably one of the ‘five or six brains’ Nietzsche had in mind when writing BGE 14. In Schmitz-Dumont’s work *Die Einheit der Naturkräfte und die Deutung ihrer gemeinsamen Formel*, where he proposed a Boscovichian theory based on the notion of extensionless force centres,^{xliii} there is a long passage which deserves closer examination due to the attention Nietzsche paid to it:

What do we know absolutely? That is our sensations. We know the impression an object makes on us, be it ‘green, hard, sour etc.’, absolutely, no matter whether the representation we make ourselves of the thing is right or wrong; and equally irrelevant for the sensation being known absolutely is whether one takes a colour to be red which is blue for another one. For the first one red is the sensation turned conscious (*bewusst gewordene Empfindung*) as veraciously as blue is for the second one; everyone *knows* what one senses.

Here, Schmitz-Dumont argues that sensations are what we are immediately acquainted with. Yet, the examples he provides clearly show that what he refers to is the qualitative content of sensory experience.^{xliv} Now, in his own copy of Schmitz-Dumont’s work—and for our problem very remarkably—, Nietzsche wrote the word ‘sensualism’ as a gloss to the quoted passage.^{xlv} This suggests that *his* sensualism is in some crucial sense related to the claim made by Schmitz-Dumont that sensory qualities are ‘absolutely’ given.

In fact, Schmitz-Dumont’s view of sensation addresses the problem of the relation between representational and qualitative content in a way that will help us to shed light on Nietzsche’s own account. This aspect of Schmitz-Dumont’s theory is presented in his work *Die mathematischen Elemente der Erkenntnistheorie*, published in 1878 and also owned by Nietzsche. There he writes:

Any time we have a sensation—warm, green, hard—, it is not only a sensory sign (*Sinneszeichen*) that simply registers an external process (*Vorgang*), like the photographic plate does with the optical component and scale, and like thermometer and

electrometer or so do with the other components of a thing or process; rather, these sensory signs are accompanied by what we call *feeling*. (Schmitz-Dumont 1878: 41)^{xlvi}

Here, Schmitz-Dumont clearly distinguishes representational from phenomenal content. On the one hand, sensations work as mere functional ‘sensory signs’ carrying information about events and things in the world. As such, they are the result of a pure physiological process and therefore equivalent to the output states of a gauging device. So far, thus, Schmitz-Dumont is underscoring the same aspect pointed out by Nietzsche in TI: sensations are functional states ‘physically grounded’ in the causal interaction between sense organs and external environment. On the other hand, though, he stresses that ‘sensory signs’ are always given together with a subjective, first-person ‘feeling’.

The question we have now to face, thus, is how to make sense of Nietzsche’s side note, i.e., how to link his sensualism to Schmitz-Dumont’s position. With regard to this question, there are three points I would like to consider. Let me start by pointing out an obvious agreement—the *first* point: both agree that sensations, taken as ‘sensory signs’, are mere functional states which directly respond to external stimulation. In this sense, Schmitz-Dumont shares Nietzsche’s sensualism as interpreted in the previous section. Rather, the problem arises with the qualitative aspect.

Schmitz-Dumont says—and we are now by the *second* point—that the phenomenal content just ‘accompanies’ the ‘sensory sign’, i.e. the mere physiological state corresponding to our sensation—which seems to imply that the phenomenal properties of a mental state are causally inert. Now, the question if Nietzsche defends this last claim or not is highly controversial and I will leave it to the side. It suffices here to stress that such claim would fit well with the purely functional frame set in the previous section.

A further problem—my *third* point—is whether we have to take this position as implying that—as proposed by Hussain’s Machian reading—‘we do have, in one sense, an unmediated awareness of sensory qualities’ (Hussain 2004: 351). There is no doubt that this claim applies to Schmitz-Dumont’s position. Moreover, given the fact that his theory of sensation anticipates in many respects the one Mach would articulately present only in 1886, one could take it as an indirect support for Hussain’s claim.^{xlvii} For one could explain the apparent Machian fashion of Nietzsche’s sensualism by showing that it has been (partially) modelled on Schmitz-Dumont’s (partial) *ante litteram* Machianism. Nonetheless—as Hussain’s clause ‘in one sense’ indicates—, the problem cannot be solved so easily. Since

this issue is closely related to the problem of how we should understand the falsification of primitive sensations (FT), I will leave a detailed discussion for the next section.

IV.2) Where the lies begin: 'chaos of sensation' and perceptual content

The concern of this last section will be the falsification thesis. More precisely, the question to be answered is how we are to make sense—within the frame of Nietzsche's sensualism—of the view according to which we falsify what he calls the 'chaos of sensation'. One possibility would be to follow Lanier Anderson, who interprets Nietzsche as holding that consciousness is responsible for the falsification of the sensory content we are originally supplied with. As argued in the section before, however, this option soon turns out to be less palatable, since it would imply that sensory qualities, which are given only consciously, were *already* falsified—a position at odds with Nietzsche's view according to which senses 'do not lie at all' (TI, 'Reason' in *Philosophy* 2). A more viable alternative is the one offered by Hussain, according to which conceptualisation should be taken as the cause of falsification. The question, thus, is how to qualify this claim in a way which convincingly suits Nietzsche's sensualism as interpreted here. Let me initially address this question by resuming the discussion of Hussain's position.

As quoted at the end of the last section, Hussain argues that according to Nietzsche's sensualism we are *only* 'in one sense' directly acquainted with the qualitative content of our sensation. Then, he goes on to explain the sense of this restriction:

I say 'in one sense' because the minute I use my representational capacities to state something about the world of sensory elements, falsification enters the picture. Given this falsification, there is thus another sense in which there is no unmediated access. Any attempt to have a thought that represents something about the world of sensory elements uses concepts that falsify—they are the falsifying medium, so to speak, that shape all attempts to represent something about the sensory elements. (Hussain 2004: 351)

Here, Hussain endorses the idea that we falsify the 'chaos of sensation' by conceptualizing it: any time we want to say something about our sensations we inescapably apply conceptual structures which counterfeit them. Significantly, Hussain's argument seems to draw on *epistemic* considerations, since the point he makes is that we lack the appropriate conceptual tools in order to *think* of our sensations without falsifying their content. This view correlates

well with Nietzsche's claim that the 'chaos of sensation' is 'formless-unformable', and therefore 'unknowable' to us (9[106], KSA 12: 396). Accordingly, the 'unmediated awareness' we have of sensations, thus, would be a sort of pre-conceptual 'grasp', to use a Husserlian formula: even if we lack cognitive access to our primitive sensory qualities, nonetheless they are given to us pre-noetically, as a phenomenologist would say. The problem with this view, however, is that it actually seems that we do *not* have any such pre-conceptual *awareness* of sensory qualities. Let me expose this point more articulately.

Given that to be *aware* of some *qualitative* content 'p' seems to imply that one is currently given 'p' in her consciousness, it is hard to believe that we are *unmediatedly* aware of *unconceptualised* sensory qualities. To see this consider a simple example: when we see a cat, normally we do not first experience a formless muddle of sensory qualities: on the contrary, we perceive the cat *directly*. We are aware neither of the 'formless' 'chaos of sensation', nor of the cognitive processing which structure it into the conceptualised perceptual content 'cat', for all this happens under the threshold of our consciousness. Moreover, recall that this was already the standard scientific view at Nietzsche's time—the perceptual content we are aware of is already fully categorised, if not even propositional, since shaped by Helmholtzian 'unconscious inferences'.^{xlviii} Thus, he was clearly familiar with the idea that what we normally experience is a full-fledged perceptual content delivered by unconscious processing. The point, therefore, is not that we do not dispose of any cognitive resource able to non-distortively 'represent' the unconceptualised 'chaos of sensation', to correctly reproduce the sensory content we have been primitively aware of. Rather, we normally *lack* access to unconceptualised content *in the first place*. This turns Hussain's claim that—according to Nietzsche's sensualism—we have an 'unmediated awareness' of sensory qualities quite problematic.^{xlix}

We need, hence, an alternative account which has to make sense of the apparent contradiction between the claim (a) that conceptualisation is the source of falsification and the claim (b) that sensory qualities, though they are normally given as already integrated into conceptualised perceptual content, are not falsified. Before I go on to deliver a detailed treatment, let me outline the strategy I will pursue in order to solve this tension. The key fact about the sensory qualities normally conjoint in perceptual content is that I *can* attend to them individually: I can scan the different shades of red and yellow of the apple I am now holding in my hand and, more relevantly, by doing so I can abstract from the fact that they are qualities of the object 'apple'. In other words, even if we are normally aware of sensory qualities as already conceptualised, we can *virtually* attend to them in the 'unconceptualised

mode' by considering them not as properties of a perceptual item, but rather as qualitative tokens in their own right.

To prove if this strategy works, a good start is to look at Nietzsche's view about perception more closely. The aphorism 192 from *Beyond Good and Evil* delivers his most informative treatment of this topic. There, Nietzsche writes that 'our senses learn late and never fully learn to be refined, trusty, careful organs of knowledge' (BGE 192: 181). The example he provides is following:

Just as little as today's reader takes in all the individual words (or especially syllables) on a page (he catches maybe five out of twenty words and 'guesses' what these five arbitrary words might possibly mean)—just as little do we see a tree precisely and completely, with respect to leaves, branches, colours, and shape. (*Ibid.*: 181-2)

The general conclusion Nietzsche draws, thus, is that '[g]iven some stimulus, our eyes find it more convenient to reproduce an image that they have often produced before than to register what is different and new about an impression' (*ibid.*: 181).

How are we to interpret this aphorism? Nietzsche seems to figure out how we conceptually structure the perceptual content in a way similar to the one recently proposed by David Papineau. According to Papineau's view, perceptual concepts are 'sensory templates' that work as follows:

These templates will be set up on initial encounters with the relevant referents. They will then be reactivated on later perceptual encounters, via matches between incoming stimuli and stored template—perhaps the incoming stimuli can be thought of as 'resonating' with the stored pattern and thereby being amplified. (Papineau 2006: 114-5)¹

Significantly, by applying the stored template to the content it is now currently attended to, one can 'take it to possess certain features that were manifested in previous encounters, but may not yet be manifest in the re-encounter' (*ibid.*, 115). Precisely such cases are the ones Nietzsche is drawing our attention to: it seems to me that I have a fine-grained perception of the tree which only encompasses sensory qualities actually given to me. On a closer scrutiny, however, this phenomenological datum reveals itself as an illusion.

The point Nietzsche wants to make is clear. To take a more straightforward example, consider how we perceive a wall.^{li} Normally, we take the wall to be qualitatively uniform, although the visual input we receive is that of a non-homogeneous surface with different shades of colour and textures. As Nietzsche suggests, we just do not take the trouble to accurately register in our perception all these sensory details: an approximate picture is enough. However, and crucially, this does not rule out the possibility to attend to the sensory qualities cushioned by the template. For we can decide to scan the surface meticulously in order to ascertain how visual qualities change. Thus, as Alva Noë notes, such qualities are ‘*virtually present*’ since ‘*accessible*’ (Noë 2004: 63). For even if they are normally given in the synthetic totality of perception, sensory qualities can be analytically isolated and attended to in their own right: we can always take a ‘*painterly attitude*’ towards our perceptual content.

Furthermore, there is at least one additional good reason in favour of this view. For, in fact, there are some rare cases in which we *actually* become to be acquainted with unconceptualised sensory qualities in such an ‘*unmediated*’ way. Consider the case of abstract painting, as, for instance, some pictures by Kandinsky or Pollock. Since here the visual qualities we are confronted with do not trigger any sensory template, we do not categorise them into ‘*things*’. Indeed, it is a rare case in which we literally perceive a ‘*chaos of sensation*’. An even more compelling example is that of a picture containing a hidden object, say a cat. Again, by looking at the picture, at a first moment we just see a chaotic mix of colour spots. Then, the ‘*eureka*’ moment eventually comes: we see the cat, i.e. the content of our perceptual experience is now conceptualised. Thus, whenever we come across uncommon ‘*groups of sensations*’ (BGE 268), we are likely to have an *unmediated* appreciation of their qualitative content. In turn, such cases provide additional evidence for the claim that the perceptual content we are normally aware of has already been unconsciously conceptualised and therefore—according to Nietzsche—falsified.

To conclude, the reading elaborated in this last section offers a solution to the first two problems individuated and addressed by Clark and Hussain, namely how to make sense, within the frame of Nietzsche’s sensualism, of both the falsification thesis (FT) and the ‘*chaos of sensation*’. On the one hand, given that Nietzsche’s view according to which senses ‘*do not lie*’ applies not only to the functionally describable, but also to the phenomenal content of sensation, the apparent tension between this claim and the falsification thesis can be turned down by taking conceptualisation as responsible for falsification, as Hussain already does. On the other hand, we had to face the more delicate issue raised by sensory qualities being attended, as normally understood, as already categorised perceptually.

However, with the proposed solution to this problem—according to which the qualitative ‘chaos of sensation’ is normally accessible to us only virtually—we finally achieved an explanation of the last missing point. We have now the entire picture before us.

V) Conclusion

The apparently innocuous statement that ‘[a]ll credibility, good conscience, and evidence of truth first comes from the sense’ (BGE 134) has taken us through an entire series of probably unexpected difficulties. Indeed, the question of ‘sensualism’ is well-suited as the starting motive for an authentic *tour de force* through Nietzsche’s late philosophy of mind, epistemology and ontology. Since after an exhausting but fascinating^{lii} journey it always brings us a sort of gratifying relief to recompose the images crowding our mind, let me briefly recapitulate the main points of the reading developed above.

A first thesis is that the general frame of Nietzsche’s sensualism is *ecological*. This means that cognition is something we can make sense of only by considering the relation between organism and environment. Importantly, this relation goes in both directions. Firstly, the cognitive features of a species are the adaptive result of environmental constraints. Secondly, the way an organism represents the world is determined by its cognitive scaffolding. This is, thus, the broader picture in which we have to place the two core claims of Nietzsche’s sensualism, i.e. that sense organs are ‘causes’ (T2) and that senses ‘do not lie’ (T1). On the one hand, given the ecological background the first claim (T2) follows suit, for if sense organs are the means by which we interact with the world, it seems obvious that they do it causally. Rather, the main concern has been to spell out the kind of causality Nietzsche is concerned with. On this point, my proposal is that the causality Nietzsche ascribes to the sense organs is the kind of power causality he delineates in his *Machtquanta* ontology. On the other hand, from the fact that sense organs causally interact with the environment follows that sensations, being the result of such a causal exchange, cannot but—at least in one sense—‘tell the truth’ (T1). This reading is supported by Nietzsche’s comparing sense organs with measurement devices, as this clearly indicates that he considers the representational content of sensations to be ‘physically grounded’ in a way similar to that of measure values delivered by gauging instruments. For both are the outputs of a causal story.

This merely functional account of sensations, however, does not exhaust Nietzsche’s sensualism. On the contrary, he takes the qualitative, phenomenal element of sensation as also

demanding an explanation. With regard to this problem, the main concern has been how to account for it within the frame of Nietzsche's sensualism. A first option would be to argue that the claim that sensations 'do not lie' (T1) does not hold for the qualitative content of sensation. The great advantage of this position is that it provides also a straightforward solution as how to make sense of the falsification thesis (FT), for one could simply maintain that phenomenal consciousness is the source of falsification. However, this interpretation is less palatable, since it would imply that falsification intervenes already at the basic level of sensory qualities. Therefore, the view to be favoured has to allow for phenomenal content, too, being 'truthful'. The bad news, here, is that the falsification thesis does not follow as smoothly from this second option. Nonetheless, the strategy of assuming conceptualisation as responsible for falsification permitted us to successfully account for it, though at the same time requiring some refinement in order to explain how sensory qualities can be accessed as still 'unconceptualised'.

To conclude, it seems to me that this reading of Nietzsche's late sensualism has some advantages compared with Clark's and Hussain's own interpretations. Firstly, it not only consistently explains its key thesis (T1, T2 and FT), but also solves all four main problems raised by Clark's and Hussain's accounts. Secondly, it also accounts for the problem of qualitative content, an issue which is completely ignored by Clark and not put into the right focus by Hussain. Thirdly, the proposed reading not only makes sense of the relevant textual evidence, but also accurately situates Nietzsche's position in its own historical context by linking it to the theories he could find in works he was familiar with and referred to—yet often covertly—both in the published opus and in the *Nachlass*. Fourthly, and crucially, it delivers an account of sensualism which is in tune with other central theories endorsed by Nietzsche, in particular with his late power ontology.

Literature

- Abel, G. (1998): *Nietzsche*, 2nd ed., Berlin/New York: De Gruyter.
- Anderson, M. L. (2003): 'Embodied Cognition. A Field Guide' *Artificial Intelligence* 149: 91-130.
- Bilharz, A. (1879): *Der heliocentrische Standpunct der Weltbetrachtung. Grundlegungen zu einer wirklichen Naturphilosophie*, Stuttgart: J. G. Cotta.
- Brobjer, T. (2008): *Nietzsche's Philosophical Context. An Intellectual Biography*, Chicago: University of Illinois Press.

- Brooks, R. (1990): 'Elephants Don't Play Chess', *Robotics and Autonomous Systems* 6, 3-15.
- Campioni, G. *et alia* (eds.) (2003): *Nietzsches persönliche Bibliothek*, Berlin/New York: De Gruyter.
- Chalmers, D. (1996): *The Conscious Mind. In Search of a Fundamental Theory*. Oxford: Oxford University Press.
- Clark, M. (1990): *Nietzsche on Truth and Philosophy*. Cambridge: Cambridge University Press.
- Clark, M. and Dudrick, D. (2004): 'Nietzsche's Post-Positivism', *European Journal of Philosophy* 12/3: 369-85.
- Drossbach, M.: *Über die scheinbaren und die wirklichen Ursachen des Geschehens in der Welt*, Halle: Pfeffer.
- Gerhardt, V. (1996): *Vom Willen zur Macht. Anthropologie und Metaphysik der Macht am exemplarischen Fall Friedrich Nietzsches*, Berlin/New York: De Gruyter.
- Gori, P. (2009a): *Il meccanicismo metafisico. Scienza, filosofia e storia in Nietzsche e Mach*, Bologna: Il Mulino.
- — (2009b): 'The Usefulness of Substances. Knowledge, Science and Metaphysics in Nietzsche and Mach', *Nietzsche-Studien* 38: 111-153.
- Harnad, S. (1990): 'The Symbol Grounding Problem', *Physica* 42: 335-346.
- Humphrey, N. (2006): *Seeing Red. A Study in Consciousness*, Cambridge (MA): Harvard University Press.
- Hussain, N. J. Z. (2004): 'Nietzsche's Positivism', *European Journal of Philosophy* 12/3: 326–368.
- Kant, I. (1781/1787): *Critique of Pure Reason*, ed. and trans. by P. Guyer and A. W. Woods, Cambridge: Cambridge University Press 1998.
- Lanier Anderson, R. (2002): 'Sensualism and Unconscious Representations in Nietzsche's Account of Knowledge', *International Studies in Philosophy* 34/3: 95-117.
- Lange, F. A. (1866): *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart*, Iserlohn: J. Baedeker.
- Liebmann, O. (1880): *Zur Analysis der Wirklichkeit*, 2nd ed., Strasbourg: Karl. J. Trübner.
- Maxwell, J. C. (2002): *The Scientific Letters and Papers of James Clerk Maxwell. Vol. 3. 1874-1879*, ed. by P. M. Harman, Cambridge: Cambridge University Press.

- Müller-Lauter, W. (1974): 'Nietzsches Lehre vom Willen zur Macht', *Nietzsche-Studien* 3: 1-60.
- Nietzsche, F. (1881): *Daybreak: Thoughts on the Prejudices of Morality*, ed. by M. Clark and B. Leiter, trans. by R. J. Hollingdale, Cambridge: Cambridge University Press, 1997.
- — (1882/1887): *The Gay Science*, ed. by B. Williams, trans. by J. Nauckhoff and A. Del Caro, Cambridge: Cambridge University Press, 2001.
- — (1886): *Beyond Good and Evil: Prelude to a Philosophy of the Future*, ed. by R.-P. Horstmann and J. Norman, trans. by J. Norman, Cambridge: Cambridge University Press, 2002.
- — (1888): *Twilight of the Idols*, in: Friedrich Nietzsche: *The Anti-Christ, Ecce Homo, Twilight of the Idols and Other Writings*, ed. by A. Ridley and J. Norman, trans. by J. Norman, Cambridge: Cambridge University Press, 2005
- — (1980), *Kritische Studienausgabe in 15 Bände*, ed. by G. Colli and M. Montinari. Berlin/New York: De Gruyter.
- Noë, A. (2004): *Action in Perception*, Cambridge (MA): MIT Press.
- Papineau, D. (2007): 'Phenomenal and Perceptual Concepts', T. Alter and S. Walter (eds.): *Phenomenal Concepts and Phenomenal Knowledge. New Essays on Consciousness and Physicalism*, Oxford: Oxford University Press.
- Poellner, P. (1995): *Nietzsche and Metaphysics*, Oxford: Clarendon Press.
- Reuter, S. (2009): *An der 'Begräbnisstätte der Anschauung'. Nietzsches Bild- und Wahrnehmungstheorie in Ueber Wahrheit und Lüge im aussermoralischen Sinne*, Basel: Schwabe.
- Riccardi, M. (2005): 'Nietzsche und die Physiologie der Sinne', in B. Himmelmann (ed.), *Kant und Nietzsche im Widerstreit*, De Gruyter: Berlin, New York: 312-23.
- — (2007a): 'Materialien zur Entstehung der Morgenröthe. Nietzsches Lektüre von Alfons Bilharz, Der heliocentrische Standpunct der Weltbetrachtung', *Nietzsche-Studien* 36: 367-81.
- — (2007b): 'Nachweise aus Gustav Teichmüller, Die wirkliche und die scheinbare Welt (1882)', *Nietzsche-Studien* 36: 399-401.
- — (2009): 'Der faule Fleck des kantischen Kriticismus'. *Erscheinung und Ding an sich bei Nietzsche*, Schwabe: Basel.
- Richardson, J. (1996): *Nietzsche's System*, Oxford: Oxford University Press.
- — (2004): *Nietzsche's New Darwinism*, Oxford: Oxford University Press.

- Rosenthal, D. M. (2005): ‘Sensory Qualities, Consciousness, and Perception’, in D. Rosenthal, *Consciousness and Mind*, Oxford: Oxford University Press, 175-228.
- Schmidt, R. (1988): Nietzsches Drossbach-Lektüre, *Nietzsche-Studien* 17: 465-77.
- Schmitz-Dumont, O. (1878): *Die mathematischen Elemente der Erkenntnisstheorie. Grundriss einer Philosophie der mathematischen Wissenschaften*, Berlin: C. Duncker.
- — (1881): *Die Einheit der Naturkräfte und die Deutung ihrer gemeinsamen Formel*, Berlin: C. Duncker.
- Small, R. (1999): ‘We Sensualists’, in B. E. Babich and R. S. Cohen: *Nietzsche, Epistemology, and Philosophy of Science*, New York: Springer, vol. 2, 73-89.
- Spir, A. (1877): *Denken und Wirklichkeit. Versuch einer Erneuerung der kritischen Philosophie*, 2nd ed., Leipzig: J. G. Findel.
- Teichmüller, G. (1882): *Die wirkliche und die scheinbare Welt. Neue Grundlegung der Metaphysik*, Breslau: Koebner.

ⁱ A first, much shorter version of this paper was presented in September 2009 at the Oxford Conference on ‘Nietzsche on Mind and Nature’, where I could benefit from discussion with the audience. Many thanks to Nikos Loukidelis, Pietro Gori and, in particular, Alessandra Tanesini for their careful reading of and penetrating comments on previous drafts. Finally, I would like to thank Marie-Luise Haase for her help *in philologicis*.

ⁱⁱ I will use following, standard abbreviations for Nietzsche’s works (references are to the list of the quoted literature):

- D = *Daybreak. Thoughts on the Prejudices of Morality* (see Nietzsche 1881)
- GS = *The Gay Science* (see Nietzsche 1882/1887)
- BGE = *Beyond Good and Evil. Prelude to a Philosophy of the Future* (see Nietzsche 1886)
- TI = *Twilight of the Idols* (see Nietzsche 1888)
- KSA = *Kritische Studienausgabe in 15 Bände* (see Nietzsche 1980)

ⁱⁱⁱ One could reply that a Kantian solution seems less appropriate when making sense of a position referred to as ‘sensualism’. However, this objection should not bother us, since Nietzsche himself stresses ‘the good portion of sensualism he [Kant] took over into his theory of knowledge’ (D, *Preface* 3: 3). This suggests that Nietzsche’s notion of sensualism is quite *sui generis*. More on this and on the reason why Nietzsche takes Kant to be a kind of sensualist in note xxii below.

^{iv} I borrow this expression from Brobjer 2008.

^v I will use the expression ‘phenomenal content’ as equal to ‘qualitative content’. Both refer to the subjective aspects of conscious experience—what is often called the ‘what-it-is-like’ of being in a certain mental state. In some cases, though, ‘phenomenal’ is meant in the Kantian sense of the term, which also corresponds to Nietzsche’s own usage.

^{vi} I understand ‘neo-Kantian’ loosely as referring to epistemological and ontological positions substantively inspired by Kant’s transcendental philosophy. For what comes, pertinent examples are, for instance, F. A. Lange, O. Liebmann or H. von Helmholtz. I say this in order to avoid misunderstandings due to Clark’s quite different use of the term.

^{vii} I will consider only those problems relevant for the present discussion. Another, in my view less convincing, point is Clark’s reading of Nietzsche’s rejection of the thing in itself. Since this issue is not central to the question of sensualism, I won’t consider it here.

^{viii} As Clark admits, TI—in particular, ‘Reason’ in *Philosophy*, 2—is an exception, since, at least *prima facie*, it seems to state the falsification thesis.

^{ix} Two things to say here. Firstly, Clark has more recently argued for a deflationary reading of BGE 4 and 11 (Clark/Dudrick 2004: 370-3). There are, though, other aphorisms which seem to clearly endorse the falsification thesis, as BGE 192. Secondly, after being initially evasive about the position Nietzsche would maintain in the

fifth book of GS, her ‘current view’ is that ‘the falsification thesis is present in the first four parts of GS, which was published in 1882, but not in the fifth part and preface, published in 1887, thus the same year as GM and the year after BGE’ (*ibid.*: 384, note 3). See, however, GS 354 and GS 372.

^x See 9[106], KSA 12: 395-6.

^{xi} As stressed above, Clark maintains that by the time of BGE—published in 1886—Nietzsche had already dropped *both* versions of the ‘true world’, i.e. thing in itself and ‘chaos of sensation’. However, the fact that he refers to the ‘chaos of sensation’ in 1887 undermines this claim.

^{xii} This view is also endorsed by Gori 2009a, 2009 b.

^{xiii} Indeed, I will defend the same general thesis also endorsed by Hussain, i.e. that conceptualisation is responsible for falsification. Simultaneously, I will show that Hussain’s treatment fails to address a relevant problem raised by the conceptualisation thesis. See below section IV.2.

^{xiv} For Nietzsche’s power ontology compare the different positions defended by Müller-Lauter 1974, Poellner 1995, Richardson 1996, Gerhardt 1996, Abel 1998. Lanier Anderson also argues against Hussain’s Machian reading by pointing out that the “semantics and ontology of sensory elements raise deep worries for characteristic Nietzschean doctrines” (Lanier Anderson 2002: 105).

^{xv} ‘Functionalism’ is the term standardly used to refer to Mach’s view that concepts like ‘cause’, ‘substance’ or ‘effect’ cannot serve a proper explanation of the interdependencies among physical objects. Rather, physics should allow only mathematical—this is the meaning of functional here—descriptions of such interdependencies.

^{xvi} See on this Riccardi 2005 and 2009, ch. 2, as well as Reuter 2009 for a far more detailed analysis.

^{xvii} This is convincingly shown by Hussain 2004.

^{xviii} Teichmüller, though, would probably not be happy to be called a neo-Kantian.

^{xix} In accordance with its current use in philosophy of mind, ‘representational content’ is meant here to pick up the propositionally expressible or, more generally, informational content of a perceptual state, as opposite to its ‘phenomenal content’.

^{xx} For a different rendering of this argument see Clark/Dudrick 2004, who argue that one of its premises is following: ‘Among the findings of physiology is that the sense organs are causes, i.e., are causal conditions of knowledge’ (372, point 2 in Clark/Dudrick’s scheme). However, I am not sure that Nietzsche considers the claim that ‘sense organs are causes’ as ‘among the findings of physiology’. Rather, it seems to figure in Nietzsche’s argument as a compelling intuition physiologists need to appreciate in order to do their work ‘with good conscience’.

^{xxi} See Schmidt 1988 and, as examples, 34[246] and 36[25], KSA 12: 503 and 562. In an appendix to his article Schmidt provides several textual concordances between Nietzsche’s unpublished notes from 1884/1885 and passages from Drossbach’s book.

^{xxii} This task is accomplished in the first two chapters, entitled *Gegen die Causalität der Erscheinungen* and *Gegen die auf der Causalität der Erscheinungen beruhende Erfahrung*.

^{xxiii} Of course, this is just the Drossbachian reading of Kant picked up by Nietzsche.

^{xxiv} Roughly, the relevant respect is the fact that, according to a Drossbachian view of causality, they are both mental entities. This can be seen quite straightforwardly in the case of ordinary empirical objects, as for Drossbach they are *Vorstellungen*—such as the ‘apple’ of the example discussed above. More controversial is this claim with regard to Mach’s ‘complexes of sensations’. Here, one could dispute that they can be taken as equivalent to Drossbach’s ‘sums of sensations’ in any relevant sense, since Mach explicitly denies that sensations are *intrinsically* mental, but rather—and ultimately—ontologically *neutral* elements. My reply is that—granted that Mach’s sensation/element distinction is coherent, which I doubt—from his position still follows that everything that could possibly ‘produce’ a sensation ‘p’ would *ultimately* be ontologically equivalent to ‘p’, as both were neutral elements. This assumption, however, is clearly incompatible with a Drossbachian account of causality.

^{xxv} As already stressed above (see note i), an hint which suggests that Nietzsche’s sensualism is *sui generis* is the passage from the *Daybreak* where Kant is called a ‘true son of his century’ because of—among others things—‘the good portion of sensualism he took over into his theory of knowledge’ (D, *Preface* 3: 3). This characterisation of Kant is strikingly—almost literally—similar to the one we can find in Gustav Teichmüller’s *Die wirkliche und die scheinbare Welt*: ‘Kant was the son of the sensualism of his time. He had not studied the ancients and of Plato he only knew that “he engaged with Socrates’ practical doctrines”. On the contrary, Kant was deep into the natural science of his time and into the sensualist works of English philosophers. That is why he considered only what is given to the senses as *existing* and being a *substance*’ (Teichmüller 1884: 112; for more parallels between Nietzsche and Teichmüller on this point see Riccardi 2007b). Therefore, Teichmüller is a very probable source for Nietzsche’s understanding of the term. On the contrary, there is no direct evidence that Lange’s account of Czolbe’s sensualism had any influence on it, as suggested by Hussain 2004.

^{xxvi} This move is similar to the one suggested by Small, who argues that Nietzsche distinguishes between a theoretical and a practical version of sensualism (Small 1999: 74).

^{xxvii} See, in particular, Clark/Dudrick 2004: 373-6.

^{xxviii} A good question here would be: who are these ‘five or six brains’? One good candidate is Otto Schmitz-Dumont, whose account of perception will concern us in section IV.1. See also footnote xl below.

^{xxix} See again Schmidt 1988 for Drossbach. Several scholars have pointed at Boscovich as to an important inspiration for Nietzsche’s notion of will to power.

^{xxx} This is confirmed by a note which contains a first draft of this aphorism. There, the praise of the nose is preceded by the claim: ‘It is *not* the senses which deceive!’ See 14[134], KSA 13: 318.

^{xxxi} The term ‘ecological’ as used in this paper does not refer to Gibsonian theories of perception, as often in current literature. What I have in mind is rather Von Uexküll’s view according to which every organism cognitively shapes its own environment. Crucially, and contrary to Gibsonian approaches, such a view does not imply a commitment to non-representationalism.

^{xxxii} See the second part of the aphorism: ‘If our eyes were a hundredfold sharper, man would appear to us tremendously tall; it is possible, indeed, to imagine organs by virtue of which he would be felt as immeasurable. On the other hand, organs could be so constituted that whole solar systems were viewed contracted and packed together like a single cell: and to beings with an opposite constitution a cell of the human body could present itself, in motion, construction and harmony, as a solar system’ (D 117).

^{xxxiii} For the textual genesis of D 117 and 118 as well as for Nietzsche’s general reception of Bilharz’ work, see Riccardi 2007a.

^{xxxiv} See for instance: ‘Thus, the unitary (*einheitlich*) force appears as dissolved in thousand different individual forces, all animated by the same essence, the drive towards being; and thus, the unitary objectual point appears as dissolved in an infinite number of force centres like the one the subject point itself is; one against all, all against one, everyone pervading the infinity with its force sphere’ (Bilharz 1879: 90).

^{xxxv} On this, see again Riccardi 2007a.

^{xxxvi} See above, at the beginning of this section.

^{xxxvii} One could object that Nietzsche’s functional stories about sense organs are better understood in teleosemantic terms, as argued by Richardson 2004. So, the kind of functionalism I here ascribe to Nietzsche would be the wrong one. My answer is that Richardson’s teleofunctionalism and my own ‘causal’ functionalism are not only compatible, but also complementary, since they respond to two different problems. On the one hand, we can ask the question—as Nietzsche in fact asked—: how did it happen that the sense organs of a species *S* could have evolved as to become such-and-such? This is a problem addressed by the teleofunctionalist account. On the other hand, Nietzsche also considers the following, quite different problem: how do the sense organs of an individual *x* work? Importantly, this is the relevant question for Nietzsche’s sensualism, since it is at this level that the problems discussed in BGE 15 and in TI raise. The kind of functionalist account offered here, thus, tries to answer this second question.

^{xxxviii} See Harnad 1990 and Brooks 1990 for how this solution applies to the problem raised by the Turing Test. Anderson 2003 argues that a ‘symbol grounding’ approach is the distinguishing trait of research projects in the field of Embodied Cognition (EC). Given that EC theories normally endorse an ecological view of cognition, in a first and partial presentation of this paper I introduced my proposal as an ‘embodied account’ of Nietzsche’s sensualism. However, I eventually dropped this qualification as, on closer scrutiny, it appeared to me more confusing than explicative.

^{xxxix} In his Harvard lecture Nicholas Humphrey delivered recently a similar ‘story’ about how phenomenal content might have gradually emerged as something different from the representational, propositional and object-oriented, content. According to Humphrey’s ‘story’, the last step in this evolution is following: ‘What happens is that the whole sensory activity gets “privatized”: the command signals for sensory responses get short-circuited before they reach the body surface, so that instead of reaching all the way out to the peripheral site of stimulation they now reach only to points more or more central on the incoming sensory pathways, until eventually the whole process becomes closed off from the outside world in an internal loop within the brain’, Humphrey 2005: 94.

^{xl} Again, this is a view which recurs repeatedly in Nietzsche’s notebooks. See for instance KSA 11: 283, 27[31] and 647, 49[37], resp. from 1884 and 1885, and KSA 12: 197, 5[36], from 1886-1887. This last note is quoted and commented by Small 1999: 80.

^{xli} See above, section III.1.

^{xlii} The zombie debate in philosophy of mind has been triggered by Chalmers 1996.

^{xliii} See Maxwell’s reaction to Schmitz-Dumont’s general approach: ‘I agree with you that the conception of atoms having length breadth and thickness, and also acting on each other at a distance, is an unscientific fusion of two irreconcilable modes of thinking. If we are to give up a “continuum”, let us try what we can do with the force-points of Boscovich, each of which has a determinate mass’, in Maxwell 2002: 736 (letter to Otto Schmitz-Dumont, 8th January 1879). Schmitz-Dumont’s Boscovichian theory is just one of several reasons for considering him one of the ‘five or six brains’ mentioned at the beginning of BGE 14. A second, even more

telling one is that Schmitz-Dumont explicitly defends the very same view Nietzsche ascribes to them, namely that science offers no ‘explanation’, but simply a ‘description’ of the world.

^{xliv} For Schmitz-Dumont this remains true even under two radical conditions. Firstly, the fact that we may structure the sense data into a wrong representation does not undermine the immediateness of their qualitative content. Secondly, Schmitz-Dumont addresses a scenario which resembles the ‘inverted spectrum’ cases controversially debated in current philosophy of mind (for an overview see again Chalmers 1996). Consider two people A and B looking at the same object, say an apple, but having each a qualitatively different colour experience: while A has a standard red experience, the phenomenal content of B’s perception is the one which is normally generated by looking at blue objects. We can imagine that both A and B agree, in some sense, that the apple is red, as they are able to discriminate red object correctly. The sensory qualities, though, that they entertain by looking at the apple are completely different. Now, Schmitz-Dumont suggests that even this possibility would be irrelevant, for A and B would nevertheless be directly acquainted with the content of their own sensations: they just would know what they were visually sensing.

^{xlv} Nietzsche also heavily underscored this passage. Microfiches of his copy of Schmitz-Dumont’s work can be consulted at the *Anna Amalia Bibliothek*, in Weimar.

^{xlvi} In Nietzsche’s own copy of this book there are traces indicating that he read these pages.

^{xlvii} Though, this would not help compensate the explicative shortcoming of Hussain’s account with regard to the problem of causality.

^{xlviii} See above, section III.1.

^{xlix} A move one could undertake to save Hussain’s reading is to claim that sensory qualities are not necessarily conscious, as suggested by Rosenthal 2005. In this case, we could say that one, in order to be unmediately given a qualitative content ‘p’, does not need to be *actually* aware of it, as cases like subliminal perceptions seem to suggest. Even if this is correct, however, we would still *lack* any ‘unmediated awareness’ of ‘p’.

¹ Compare Papineau’s position with following passage by Nietzsche: ‘concepts [...] are more or less determinate pictorial signs for sensations that occur together and recur frequently, for groups of sensations’ (BGE 268).

ⁱⁱ This example is discussed by both Noë (2004: 49-59)

ⁱⁱⁱ As always, it is not the guide which makes a trip ‘fascinating’, but rather the landscape itself—in this case, Nietzsche’s texts.