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Conferencia Internacional / International Conference

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Actas / Proceedings

**Becoming Reasonable Bodies. Plato,
Churchland, and Nietzsche's Philosophy of Mind**

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Becoming Reasonable Bodies. Plato, Churchland, and Nietzsche's Philosophy of Mind

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"There is a different world to discover –
and more than one! On the ships, my philosophers!"
(Nietzsche, GS: § 289)

Introduction

When Nietzsche invites his reader to view science under the optics of an artist and art under the optics of life (*BT*: 14) this idea has substantial consequences for the traditional understanding of the relation between mind and body, too. His notion of a "great reason" of the body (*Za I On the Despisers of the Body*: 39) transforms the established concept of art, science and life, and aspires at a new self-perception of mankind without reducing life to a mere system of biological functions. By means of a comparison between Nietzsche, Plato, and contemporary philosophy of mind, namely Paul M. Churchland's *Eliminative Materialism*, this paper aims to provide a better understanding of these ideas. Such a comparison broadens our understanding of Nietzsche as well as of contemporary philosophy of mind in two ways: It could widen the spectra of possible approaches to the mind-body-problem beyond some shortcomings of a language- and science-focused analytic philosophy. Moreover, it sheds light on an important, but often overseen connection between fundamental epistemological obstacles and different conceptualizations of our body.

Eliminative materialism, as a recent alternative to dualistic and monistic philosophies of mind, holds that "our common-sense psychological framework is a false and radically misleading conception of the causes of human behavior and the nature of cognitive activity" (Churchland 1999: 43). Traditional terms of so-called, ultimately Platonic folk-psychology could not be reduced to naturalistic terms but should be eliminated and replaced by more appropriate scientific ones. When Churchland published his first book on the relation between human neural nature and mind, a referee made an astounding remark: "Churchland aims little less than a 'transvaluation of values'" (Fraassen 1981: 555). Though van Fraassen made no further explicit

references, the reminiscence of Nietzsche is not arbitrary. Not only Churchland's ambition to overcome a traditional worldview resembles Nietzsche; their underlying philosophies of mind appear to have some features in common, too. Like Nietzsche, Churchland is a Kantian insofar both agree that our perceptual world is at least co-constituted by a man-made conceptual web. Moreover, both think that the conceptual framework could significantly mislead our representations of the outer and inner world. While Churchland argues that "propositional attitudes [...] form the systematic core of folk psychology" (Churchland 1989: 3), Nietzsche advises against the "seduction of language" (*GM* 279) and the "grammatical custom" (*BGE* 31) to add an 'I' to a 'think'. Churchland as well as Nietzsche take contemporary science serious, be it modern research in neural networks or 19th century findings in the physiology of sense-experience. Nietzsche is a philosophical naturalist as Churchland is, but both refuse to treat mental processes merely as reducible 'epiphenomena'. Both see reason in the body.

However, these similarities are outweighed by significant differences, which should not be neglected: As opposed to Churchland Nietzsche does not invite us to replace folk-psychology by allegedly more appropriate neuro-scientific theories, because he sees a difference between a reasonable body and an information-processing brain. Disregarding his serious interest in contemporary scientific findings, Nietzsche never adopts a techno-scientific attitude towards human life and nature. The most important reasons for this are his philosophical reservations against scientific realism. Whereas the idea of a transvaluation of traditional philosophy of mind is combined with a realist attitude in Churchland's version, it goes with perspectivism in Nietzsche. He argues for a naturalistic concept of life, and he refers to scientific findings to establish his argument, but his ultimate reference is not the current state of affairs in science but the goal to become reasonable bodies. In order to bring this comparison and its relevance for our understanding of Nietzsche's philosophy of mind and nature about, I shall proceed in three steps. First I will go back to an early and prominent despiser of the body. Plato's *Theaetetus* investigates an epistemological problem on the basis of a dualistic folk-psychological model of the body. The next section discusses Churchland's eliminative philosophy of mind as a solution of Plato's problem and his explanation of how neural networks establish a conceptual framework and acquire knowledge. The third section examines ...

1. Epistemology of the Body's Despisers (Plato's version)

Plato is, for several reasons, a good point of departure in epistemological issues and not just because he was one of the first to elaborate them. The Platonic dialogue *Theaetetus* is one of the most illuminating discussions of some fundamental problems regarding the nature and scope of human knowledge. Plato states epistemological questions we might still want to answer, and he sets high standards for something being known (instead of just believed or thought of) we might still want to meet. Plato's discussion of the epistemic relation between body and soul can shed some light on contemporary approaches to the philosophy of mind and the philosophic foundations of "folk psychology" (Churchland 1989: xi). Plato's ambition indeed, was to acquire

knowledge of the objective reality underlying the ephemeral world of appearances, to which our body ultimately belongs.

Hopefully a very brief sketch of the course of argument in the *Theaetetus* might do. At the beginning of the dialogue, the Platonic Socrates states his main concern the following way: "Well, it is just this that I am in doubt about and cannot fully grasp by my own efforts – what knowledge really (*episteme pote* – at any time) is" (Plato *Tht.*: 145e). Although this might appear to be an empirical question in some sense, Socrates specifies in further discussion that he quests not for a more or less complete enumeration and description of different kinds of knowledge we might have, but for the everlasting fundamental nature of knowledge (as opposed to other beliefs or thoughts). The dialogue discusses three concepts of knowledge, none is found satisfying. The first definition offered by Theaetetus is empirical. "I think, then, that he who knows anything perceives that which he knows, and, as it appears at present, knowledge is nothing else than perception (*aesthesis*)" (151e). Is this "a real offspring or a mere wind-egg", Socrates asks, and it is no trouble to guess his final answer. Plato as much as many Ancient philosophers held that we cannot trust in and rely on our sensual experience to acquire true knowledge about the real world for two main reasons: First, the objects of sensual experience are constantly changing and secondly, all perceptive knowledge is relative to the perceiver. You will never eat the same apple twice and you will never know the taste of an apple in your sisters mouth – how could you know something general about apples by perception, then? A further argument to finally reject 'knowledge is perception' resembles very much something Nietzsche and Churchland emphasized: You cannot perceive without a conceptual framework. Plato, not knowing anything about 19th century physiology or contemporary neural network science, suggests that all different kinds of sensory data given through ears, eyes and other sensory organs must unite somewhere. "For it would be strange, my boy, if [...] they do not all unite in one power, whether we should call it soul or something else, by which we perceive through these as instruments the objects of perception" (184d). This (folk-psychological) assumption leads Plato to maintain a dualistic framework, in which our sensory organs appear to be instruments, bodily tools, means to provide information for another faculty or organ. The unifying organ establishes an order for the chaotic sense data by attributing importance and unimportance to them and it can perceive "being and not-being, and likeness and unlikeness, and identity and difference ..." (185c). This organ, of course, is the soul, which "views some things by itself directly and others through the bodily features" (185e).

The two modes of the souls viewing are of certain interest when it comes to modern neural network studies, because Plato distinguishes two levels of intellectual activity. "Is it not true, then, that all sensations which reach the soul through the body, can be perceived by human beings, and also by animals, from the moment of birth; whereas reflections about these, with reference to their being and usefulness, are acquired, if at all, with difficulty and slowly, through many troubles, on other words, through education?" (186cd). Plato attributes the capacity to perceive to humans, children and animals alike and recent research in cognitive science can tell us a lot more about the details of this process. But when it comes to knowledge about the nature or essence (*ousia*) of things, their importance to us, and their relation to other things, reasoning, proof and education is required. "Then, knowledge is not in the

sensations, but in the process of reasoning about them; for it is possible, apparently, to apprehend being (*ousias*) and truth (*aletheias*) by reasoning, but not by sensation" (186d). Reflexive reasoning is, at least as far as Plato is concerned, a sentential activity and it is the only activity which might lead to knowledge. Consequently, knowledge is not in our sensual experience, the body is not only the grave of our soul, it is also an essentially unreasonable entity (cf. Plato: *Gorg.*: 493a; *Phd.*: 80e; *Rep.*: 611c).

The second definition of knowledge examined in the *Theaetetus* is "true opinion" (Plato *Tht.*: 187b) as opposed to false opinion. Knowledge has to be articulate and explainable. This reflects the common 'folk psychological' notion, that knowledge has to be conscious and therefore be explicable. Plato's Socrates rejects this account of knowledge, because one can have true opinions accidentally or for the wrong reasons, let's say because one was persuaded by a skilled rhetoric. He does not regard a true belief to count as knowledge, unless you can give a *logos* (i.e. reason, account, explanation, justification) for your true belief. This leads to the third proposal, "that knowledge was true opinion accompanied by reason (*meta logou alethe doxan epistemen einai*)" (201c). This definition comes to be known as "justified true belief" in the years to follow, though Plato was not satisfied with such a definition of knowledge and argues, that "neither perception, Theaetetus, nor true opinion, nor reason or explanation combined with true opinion could be knowledge" (210ab). The avowed project of the *Theaetetus* was not accomplished.

This unsatisfying result leaves a gap which can be closed within the Platonic theory of forms and the notion of recollection (*anamnesis*). The immortal soul saw the ideal forms before she was born into a human body. This is Plato's answer to the genetic question, where do we get our framework from. And it provides an evaluation of our framework, too, because if our recollection works successfully, it will unveil true knowledge about the real nature of things. Of course, the idea of an immortal soul, rebirth, recollection, and such things runs into a couple of hazardous difficulties. Aristotle already mocks the theory of forms to be just nonsense and puts much more emphasis on observation and induction. A theory of forms and recollection really is out of touch with our age. But a brief sketch of the following attempts to answer Socrates' question does not provide much better solutions either. At least, the Kantian transcendental answer gave Nietzsche a good laugh: "There came a time when they rubbed their eyes. We are still rubbing them today. It had been a dream; first and foremost a dream of old Kant's 'By virtue of a virtue,' he had said, or at least meant. But is that - an answer? An explanation? Isn't it merely begging the question?" (Nietzsche *BGE*: 25).²

However, the diagnosis, Churchland and Nietzsche do have in common with Plato, is that the epistemological question still lies were the *Theaetetus* or (as far as modern philosophy is concerned) were Hume had dropped it. Both agree that Plato's epistemological problem results from a misleading dualistic conception of the relation between mind and body. Both agree that a true opinion accompanied by reason is no proper explanation of knowledge, but for significantly different reasons. While Nietzsche mainly attacks the metaphysical implications of Plato's ambition, Churchland argues on a developmental level. Following Churchland, "the whole 'justified-true-belief' approach is misconceived from the outset, since it attempts to make concepts that are appropriate only at the level of cultural or language-based learning do the job of characterizing cognitive achievements that lie predominantly at the *sublinguistic level*" (Churchland

forthcoming: 1,28). Following these ideas, traditional philosophy misconceived the epistemological field because a "judgment [...] is *not* the fundamental unit of cognition, not in animals, and not in humans either. Instead, the fundamental unit of cognition [...] is the *activation pattern* across a proprietary population of neurons" (*forthcoming*: 1,3). Churchland can back up this thesis with an increasing numbers of recent neural network studies. He, therefore, invites us to "give up the linguaformal 'judgment' or 'proposition' as the resumed unit of knowledge or representation [my italics]" and refers to "conceptual resources of modern neurobiology and cognitive neuromodelling" (*forthcoming*: 1, 4). But it is to be shown, how these new research-results posses a better understanding of our mind and body.

2. Naturalised Epistemology and Philosophy of Mind (Churchland's version)

Churchland's approach towards a *New Epistemology* starts from the insight, that we need to have a conceptual framework first in order to make perceptions. Where do we therefore get our concepts from and how justified is our knowledge based on these concepts? Already in 1979 he was convinced, the methodological problems of descriptive-genealogical *and* normative-evaluative epistemology "will not be solved short of an intellectual revolution in our conception of ourselves as intellectual beings" (Churchland, 1979: 4; similar: 127, 150) and he basically stayed faithful to this idea ever since. "Now, it plainly will not do to suggest that each of us 'sits behind' his personal battery of measuring instruments (sense organs), observes their sensational outputs and *uses* an interpretation function in formulating his perceptual judgments" (Churchland 1979: 39). Similarly, Nietzsche rejects the folk-psychological division between perception and interpreting perceiver as much as the one between doing and the doer: "there is no 'being' behind doing, effecting, becoming; 'the doer' is merely a fiction added to the deed — the deed is everything. The popular mind in fact doubles the deed" (Nietzsche, *GM* 279). He advises us against the "seduction of language" (*GM* 279) and explains elsewhere: "After all, one has even gone too far with this 'one thinks' — even the 'one' contains an interpretation of the process, and does not belong to the process itself. One infers here according to the usual grammatical formula — 'To think is an activity; every activity requires an agency that is active; consequently ...'" (*BGE* 31)

Like Nietzsche, Churchland invites us to dismiss "the 'sentential' or 'propositional attitude' model that has dominated philosophy for the past 2500 years" (Churchland *forthcoming*: 1,12) in order to overcome the Platonic inheritance in epistemology. Research in neural networks will – so he believes – set the foundations to solve problems, which have been misconceived and therefore unsolved in Western philosophy from its Ancient beginnings onwards. He wants no less than replace our traditional understanding of knowledge with a neurocomputational perspective, because our mind/brain is not (or at least not primarily) a lingual system, but a plastic neural network. These "propositional attitudes [...] form the systematic core of folk psychology" (Churchland 1989: 3), a common-sensical misrepresentation of mental states, Churchland wants to get rid of by means of eliminative materialism. In order to understand and judge this ambition and its relation to Nietzsche's philosophy of mind, it

is inevitably necessary to concentrate on Churchland for a while. His main argument consists of two steps. At first he provides a neuro-computational genealogy of mental states (1). Nietzsche might have been partly sympathetic towards such a naturalistic reconstruction of the mind and its genesis. In a second step, Churchland argues for a new worldview in accordance with contemporary science (2), and this is where Nietzsche and Churchland certainly part their ways.

2.1 Establishing a Conceptual Framework

Churchland gives a very illuminating and insightful reconstruction of cognitive representation and how our mind acquires/establishes a conceptual framework to perceive in the first place. In successfully doing so he states an answer to what I would call the genetic question: Where do we get our concepts from. Churchland agrees with Nietzsche and others that perceiving is an active process, a framework is needed in order to perceive. Neural networks can not make any judgments until a conceptual framework was build up. How, then, is a conceptual framework constructed, where do we get it from? This question has not been sufficiently addressed in philosophy but recent research in artificial neural networks can, by analogy, shed some light on it, because real learning processes differ quite significantly from our traditional understanding. Churchland introduces a "three-tiered conception of knowledge" (Churchland *forthcoming*: I,26), a "deliberate idealization" (*forthcoming*: I,30), of course, but very helpful. The first level consists in the somewhat material structural change, when the "microconfiguration of the brain's 10^{14} synaptic connections" (*forthcoming*: I,29) is basically established. The product of this process, usually more or less completed when adulthood is reached, is a more or less fixed space of possible activation patterns among the neuronal population. This configuration of attractor regions is, following Churchland, "in short, a *conceptual framework*" (*forthcoming*: I,29).³ At the second level different neural activities and activation states among population of neurons are situated. "Bluntly, the brain's neural activities are *self-modulating* in real time, thanks to recurrent or feed-backwards architecture of so many of its axonal projections" (*forthcoming*: I,29). This is why our mind is plastic and can represent new objects as well as old objects in a new way (gestalt-shifts). The third level refers to the cognitive representation of cultural change, where language and community and culture is involved. At this level we find the "techniques of individual and collective *evaluation* of the conceptual novelties produced at the first two levels of learning" (*forthcoming*: I,29). This will be the level to address normative epistemological questions. It is worth emphasizing here that Churchland's eliminativism does of course not deny the phenomenal existence of mental states. He is no "reduktive eliminationist" (Abel 2001: 2), since eliminativism aims to overcome the false alternative between dualism and reduction. Churchland does not deny the existence of mental states, but their folk-psychological conceptualizations are plainly wrong and should be replaced by a better theory. Pretty much like the Lavoisier-Priestley-case in chemistry: There is a real process of burning and corrosion, it only has nothing to do with a substance called 'phlogiston' which does not exist and should be eliminated rather than reduced to oxygen. I am afraid that Abel exaggerates the differences between Nietzsche's and Churchland's naturalism.

Let us consider some details regarding the genesis of an artificial conceptual framework. Churchland elaborates how artificial face-discrimination networks proceed, and most likely natural ones like yours or mine, too. An artificial network of three rungs 'learned' to discriminate (at first) 11 faces. It did so by focusing on "subtle *variations*" (Churchland forthcoming: II,24) between different faces and by constructing an abstract background-map of the important differences and similarities. For this purpose the network must compress the information given by the 4096 receptors of the first rung to the 80 artificial neurons of the second level. Each of these has a "*preferred input stimulus*" (forthcoming: II,24), which can, if fed with the right stimulus, produce a maximum level of excitation. All cells at this second, compression layer are concerned with whole faces and not just with eyes or nostrils, and each of them reacts more or less with respect to his specific stimulus pattern of facial template. Although the actual pattern of 'preferences' is arbitrary, it is necessary that the compressing or receiving neurons at the second layer do develop different preferred input stimuli in order to establish a significant activation-pattern. The pattern of preferences is not defined or programmed by the creators of the artificial network or the supervisors of the training-process, but it develops somehow auto-poetic. One cell gets excited over oval shaped faces with big eyes, reddish skin and thin lips, whereas another prefers hyperbolic male faces with long noses, rectangular shape, and brown eyebrows. Since all 80 cells react differently, determined by their preferences and by the received stimulus, any face is pictured or matched by an unique pattern of activation level among the whole cell population. Similar faces receive/produce similar activation-patterns and after some training the network establishes a framework of similarity and dissimilarity-relations. "The result, for your unique face, is a unique pattern of activation levels across the entire second-rung population" (forthcoming: II, 25). Finally, the network was capable of fascinating things such as filling gaps or repairing bad, incomplete pictures. If the given stimulus was insufficient, the network added the missing elements and 'inferred' to the activation patterns most likely. The artificial network used its background knowledge about faces by means of vector completion; it apparently learned to 'know' faces.

This and several other examples of Churchland do (as far as I am concerned) convincingly show, that artificial and natural neural networks make use of vector completion. I am also inclined to accept that "vector completion is clearly a form of *ampliative inference*" (Churchland forthcoming: II,27), and of inference to the best explanation (IBE). Churchland therefore regards it as "tempting to see" that vector completion is "the first and most basic *instance* of what philosophers have called 'inference-to-the-best-explanation', and have tried, with only limited success, to *explicate* in linguistic or prepositional terms [my italics]" (forthcoming: II,27). In spite of its really tempting results, this seems to obliterate the difference between a genetic and a justificatory account. The analysis of face-recognition provides a very much satisfying genetic description of our inferential praxis, but that is not what Churchland (as opposed to Nietzsche) aimed for – an objective, neutral justification of knowledge-claims. But an instance is no explanation, the latter should provide a reason to use IBE and not just a cause. Similar worries apply to the three main achievements Churchland ascribes to these new insights in network's vector completion.

First, artificial network studies explain the capacity to infer without any further cognitive machinery and, secondly, they explain the existence of this capacity in

humans and animals alike. Animals use such kinds of inferences and the "classical and pointedly linguaformal" (forthcoming: II,28) approach fails to provide an explanation. But the classical approach mainly fails, because it applies a more restricted meaning to the term 'knowledge' and denies animals do 'know' anything in a strict sense, they just (successfully) believe. Epistemology is about the Platonic distinction between *episteme* and *doxa*. Even if animals do infer, they can be as miserably misled as human beings, a fact Russell's turkey prominently shows. His neural network might quite well infer "they fed me so good every day, they will feed me good in future", or "the best explanation of my good daily food is, they are good-willing". As his well-known fate has it, on Thanksgiving he was proofed to be wrong, but could he ever have induced and abducted better? Neural network studies, of course, confirm the possibility of wrong judgments, too. The network's "abductive inferences can occasionally lead to astray" (forthcoming: II,33). The third achievement is, vector completion "embodies an elegant solution to a chronic problem [...of] abductive inference generally" (forthcoming: II,28). This problem is: How can we practically ever conduce an exhaustive search of all our current background information within reasonable time in order to find the best? Churchland shows that a neural network is fast enough and very much capable of such a high-speed-search: "Classical problem solved" (forthcoming: II,28).

In spite of the fact that this so-called 'frame-problem' was relevant in the field of Artificial Intelligence, it can be regarded as one of the rather minor philosophical problems of IBE. The central problem of IBE, as it was stated by Bas van Fraassen, is: How can we know that the best available explanation is not just marginally better than its competitors? It might only be the best of a bad lot? Moreover, our criteria to judge an explanation as better are problematic, too. Therefore we might have pragmatic or instrumental reasons to choose the apparently best available explanation, but we have no sufficient reason to regard this one to be true or closer to truth. Churchland emphasizes, again with reference to Plato, that the process of getting a grip on the enduring reality behind the ephemeral appearances is plainly an iterated process of tons of thousands of abductive steps (cf. forthcoming: II,31). But the probability of truth does not rise, just because you increase the nonetheless limited amount of underdetermined abductive inferences. Nonetheless, Churchland is inclined to suggest, that the multi-layered functional arrangement of higher mammals "could yield, for them, a more penetrating insight into the enduring categorical and causal structure of the world" (forthcoming: II,31). Churchland's inclination towards realism, towards the idea of penetrating insights into the enduring structure of the world instead of just more or less successfully coping with live, deserves further investigation, because it marks the most significant difference to Nietzsche.

2.2 Weak Reasons for Realism

Although it is not (as far as I see) convincingly derived from Churchland's neuro-computational account, his work breathes a strong realistic optimism. He poses his position on realism as a kind of personal commitment on several occasions:⁴ "On the view here adopted the network of belief retains systematic causal connections with reality, connections, moreover, that carry information about reality" (Churchland 1979:

41). "I remain committed to the idea that there exists a world, independent of our cognition, with which we interact, and of which we construct representations" (Churchland 1989: 151). Taken together, these commitments constitute a strong realist claim: There is a real world existing. The real world is independent of our cognition. Although our cognition does not affect the world, our beliefs are systematically causally connected to the real world. Our beliefs carry information about the real world. Adding the awareness for fallibility and the notion of scientific progress, these claims sum up to convergent realism. Although this metaphysical prejudice is hard to justify, it plays a necessary role in Churchland ambitious project to reshape our current conceptual framework, our current phenomenal world, by means of eliminative materialism into a more scientific one. Because our current conceptual web represents the latest stage in an evolutionary process, he invites us to consider a different way of speaking about the world and "may examine with profit the possibility that perception might take place within a matrix of a different and more powerful conceptual framework" (Churchland 1979: 7). The more powerful conceptual framework Churchland has in mind is derived from current scientific theories and will affect our world-view fundamentally. After the "perceptual transformation here envisaged [...] people do not sit on the beach and listen to the steady roar of the pounding surf. They sit on the beach and listen to the aperiodic atmospheric compression waves produced as the coherent energy of the ocean waves is audibly redistribute in the chaotic turbulence of the shallows" (1979: 29). This is why Bas van Fraassen was perfectly justified in saying: "Churchland aims little less than a 'transvaluation of values'" (Fraassen 1981: 555).

Such a transvaluation requires two things: it must be possible and it must be justified. The empirical belief that such a transformation is possible is a necessary condition to even think about the reorganization of our conceptual framework. Churchland and Nietzsche share this belief, though for different reasons, insofar both emphasize subject-sided, historically changeable active elements in the process of concept-forming. Churchland states this empirical belief as follows: "If normal perceptual judgments are instances of an established pattern of theoretical response to sensory stimulation, then the question of the propriety of anyone's perceptual judgments can be seen to turn ultimately on the question of the virtues of the theory in whose term the responses are made. A perceptual desideratum, therefore, is that one's perceptual judgments be made, if possible, within the terms of the best available world-theory" (1979: 37). Since our perceptual world is inevitably theory-laden, we should choose the best among the theories available. In spite of the fact that Churchland carefully confines it here, the whole spirit of his New Epistemology highlights the very possibility of such a change. "If our perceptual judgments must be laden with theory in any case, then why not have them laden with the best theory available?" (1979: 35). And what is the best theory? Following Churchland, the answer is easy: "The obvious candidate here is the conceptual framework of modern physical theory – of physics, chemistry, and their many satellite science. That the conceptual framework of these science is immensely powerful is beyond argument, and its credentials as a systematic representation of reality are unparalleled. It must be a dull man, indeed, whose appetite will not be whet by the possibility of perceiving the world directly in its terms" (1979: 7).

Churchland illustrates what he has in mind by means of an imaginary culture, "to gain a taste of how *better* we might apprehend the world, perceptually" (1979: 25, his

italics) The post-revolutionary people would perceive and speak rather different. "Where (roughly) we learn 'is warm', they learn 'has a mean molecular KE of about $6.5 \times 10^{-21} \text{ kg m}^2/\text{s}^2$ '" (1979: 29). He is well aware that this looks clumsy at first glance, but he is convinced it will unveil its profits in the long run. The repeated reference to 'best' and 'better' revives the problems of theory-comparison and theory-evaluation, mentioned above and points to the second requirement of any transvaluation: How do we judge alternatives? Why should the available ones not be a bad lot? What values should ground our judgments? Why should we like a day with a molecular kinetic energy of such and such better than a warm day at all? Being better is not an essence of theories, but a function: being better for what? Churchland seems to imply that we will be better off with a perceptual framework based on latest physical theories in *any* respect. Is this so? Many people might not like Churchland's elimination, because they want to continue engaging in their all-too-human comedies and tragedies and romantic affairs, and physical theory offers no better mean to their end. Such distaste, expression of different value-judgments, must not necessarily bother. Many might not like to be dragged out of the center of the universe and being put on a rather insignificant tiny bowl by Copernicus and others, but they finally learned to accept it as a matter of fact. The claim on truth can make people adopt empirical beliefs they do not like and which do not serve their needs better. This is why realism or at least overwhelming pragmatic superiority of scientific theories is essentially to Churchland.

Reading Churchland from a Nietzschean point of view this commitment towards scientific realism is hardly convincing. Of course not, because realism is a weird position as such, but because many arguments Churchland provides are commonly used in non-realist frameworks. In order to understand his commitment towards realism, a reconstruction of his rebuttal of Bas van Fraassen is helpful. Churchland argues, global excellence of theories is the measure of both truth and ontology, as opposed to van Fraassen's restriction to observational excellence as an indicator for theoretical truth only, without further ontological implications beyond the observational level. The main course of Churchland's argument against constructivist empiricism is very remarkable, since it primarily rejects van Fraassen's "*selective* skepticism in favor of observable ontologies" (Churchland 1989: 139), because he somewhat sees van Fraassen on a slippery slope and points out that his problem collapses into Hume's problem. Referring to serious threads of historically informed skeptical meta-induction and to evolutionary considerations, Churchland becomes very explicit: "Why, then, am I still a scientific realist? Because these reasons fail to discriminate between the integrity of observables and the integrity of unobservables. If anything is compromised by these considerations, it is the integrity of theories generally. That is, of *cognition* generally. Since our observational concepts are just as theory laden as any others, and since the integrity of those concepts is just as contingent on the integrity of the theories that embed them, our observational ontology is rendered *exactly as dubious* as our nonobservational ontology" (1989: 140). Van Fraassen emphasizes that any theory whose ontology contains unobservables is radically underdetermined and he takes that as a reason to be skeptic about such theories. Churchland, however, argues that even (common-sense or scientific) theories whose ontology only contain observables are as underdetermined as the ones containing unobservables and takes that as a reason – for realism. Churchland's philosophical consistency does not see good reasons to deny

unobservable ontologies while accepting observable ones, but this does not lead him into the *prima facie* most consequent direction – non-realism.

Churchland's metaphysical realism is particularly stunning, since - arguing from a neuro-computational perspective - even Churchland admits that our neural networks could well do without truth as long as they are successful: "Natural selection does not care whether a brain has or tends toward true beliefs, so long as the organism reliably exhibits reproductively advantageous behavior" (Churchland 1979: 150). This comes very close to Nietzsche's insight that the nature of living beings is concerned about effects and consequences and not about truth. "The intellect, as an instrument to sustain the individual, develops its main capacities in disguising [...] What does a man really know about himself! Yes, could he even only once perceive himself completely, as laid out in a illuminated glass-box? Isn't nature silent about almost everything, even about his body, to keep him far away from the routes of his inner organs, the fast movements of his blood, and the intermingling muscle-vibrations, and lock him safe in a self-confident but illusionary consciousness!" (Nietzsche *TL*: 876). But Churchland refuses to draw the same conclusions as Nietzsche, because his proposed transvaluation plainly would not work without realism: consequently could not be what should not be.

Already in 1979 Churchland used this kind of argument. The point of departure is his well justified insight that common-sense judgments are as theory-laden as scientific ones and "that there is no such thing as *non*-theoretical understanding" (Churchland, 1979: 2; cf. 37). The distinction between everyday knowledge and science reduces to the distinction between relatively new theories and theories whose cultural adoption is more or less complete. The same demise applies to the apparent difference between theoretical and perceptual beliefs and to observable vs. unobservable ontologies. Stating these premises, Churchland again proceeds to his somewhat astonishing conclusion: "We cannot, therefore, adopt an instrumentalist or other non-realist attitude towards the doctrines and ontologies of novel theoretical frameworks, unless we are prepared to give up talk of truth, falsity, and real existence right across the board" (1979: 2). This argument has several weaknesses. Why should something not be the case, only because its consequences are not welcomed? If our scientific theories are as dubious as our common-sense notions, science may not gain support from our notoriously wrong and misconceived common-sense. Most significant scientific revolutions started from rather counter-intuitive conjectures and deep (Platonic) distrust in immediate sense-experience. The probably missing or reluctant preparation to give up talk of truth, falsity, etc. does not provide a justification for these traditional habits. It is no *reductio ad absurdum* either, since normative epistemology is not impossible in a non-realist framework. Why do we need the metaphysical commitment which is so hard to account for, "why call it scientific *realism* at all?" (Churchland 1989: 151)? Because Churchland cannot do without, he needs to take it for granted in order to justify his proposed transvaluation. He basically expresses a confidence. "But the confidence in reason is" as Nietzsche pointed out dryly "as confidence, a *moral* phenomenon" (Nietzsche *M*: 15).

3. Becoming Reasonable Bodies (Nietzsche's Version)

On the basis of the preceding comparison with Plato and Churchland, Nietzsche's naturalized philosophy of mind and his notion of the greater reason of the body could become clear as an approach towards a fundamental transformation of our conceptual framework. Nietzsche rejects the misleading, childish folk-psychology of the Platonic tradition and replaces it by a scientifically informed naturalized picture: "Body am I, and soul"—so saith the child. And why should one not speak like children? But the awakened one, the knowing one, saith: 'Body am I entirely, and nothing more; and soul is only the name of something in the body.'" (Nietzsche *Za I*: 37). But it is very important to note that he leaves it open to speak like children – why should we not. And even the notion, that the 'soul' is only a bodily feature and does not refer to a separate entity is presented as a saying of the knowing one, not as a truth. As opposed to Plato and Churchland, Nietzsche does not share their joint "metaphysical faith" that "truth is divine" (Nietzsche *GS* 577). Nietzsche's naturalized epistemology agrees with Churchland in his rejection of the Plato's idealistic folk-psychology, and even with his respect for contemporary scientific findings, but it also overcomes unjustified metaphysical prejudices. This provides Nietzsche's philosophy of mind, in spite of its similarities with eliminative materialism, with a fundamentally different outlook. Let me give a sketch of that outlook by referring to his early notion of metaphor, his reception of scientific physiology and his interpretationalist concept.

As early as in *Truth and Lie in an Extra-Moral Sense* Nietzsche points out that humans rely on a set of metaphors to construct conceptual frameworks, truth is beyond their grasp. "What, then is truth? A mobile army of metaphors, metonyms, and anthropomorphisms – in short, a sum of human relations, which have been enhanced, transposed, and embellished poetically and rhetorically, and which after long use seem firm, canonical, and obligatory to people: truth are illusions about which one has forgotten that this is what they are" (Nietzsche *TL*: 880f). It is no wonder that even the early Nietzsche tried to give an account of the origin of metaphors in naturalistic terms. Short of neural network studies, he understands it as a process of lingua-formal translation of perceptual data: "A nerve stimulus, first transposed into an image – first metaphor. The image, in turn, imitated by a sound – second metaphor" (Nietzsche *TL*: 879). These stimuli, transformed into metaphors, form a language. "What is a word? The image of a nerve stimulus in sounds" (*TL*: 878). But in spite of these vague connection between stimuli and words, Nietzsche rejects any realistic account. Our language does is not systematically causally connected with the world: "Do the designations and the things coincide? Is language the adequate expression of all realities? Only through forgetfulness can men ever achieve the illusion of possessing a 'truth' in the sense just designated" (*TL*: 878). From that point of view, to say: 'has a mean molecular KE of about $6.5 \times 10^{-21} \text{ kg m}^2/\text{s}^2$ ' is ultimately as metaphorical as 'warm'. Neither our language, nor our neural perceptions represent the real world, because, "to infer from the nerve stimulus to a cause outside us, that is already the result of a false and unjustified application of the principle of causation" (Nietzsche *TL*: 878). If the world we are living in is at least partly made up by us, we should try to be conscious as much as possible about our subject-sided contributions. If we cannot escape anthropomorphism, lets do it proper. Lets take the surrounding chaos and

create a cosmos of our gusto. Nietzsche therefore imposes future men to rearrange our set of metaphors in a more appropriate way as far as 'cultural progress', 'art' and 'life' is concerned. Under such conditions, we should make up our mind regarding the kind of world we would like to live in, and albeit we might have good reasons to choose the current scientific world, we are not obliged or determined to do so.

Nietzsche took science serious; in 1868 he planned to study sciences together with his friend Erwin Rhode (Janz 1978: I,319) and some 20 years later he noted in his autobiography: "I saw myself with grief and misery, very thin, very hungered: the *realities* where quite missing in my knowledge and the *ideals* where worth the devil! — A quite burning thirst came over me: from then on actually I did nothing more than physiology, medicine and natural sciences" (Nietzsche *EH*: 325). One of his extensive interests is the newly developing field of physiology and theories of perception. Inspired by Schopenhauer's *World as Will and Representation* he realizes the relationship between sensory perception, mental processes and epistemological judgments. "After his reading of Schopenhauer, Nietzsche in fact finds more 'evidence' for this argument in the nineteenth-century physiological and scientific treatises to which he turns during his years as a student in Bonn and Leipzig and as a young professor in Basle" (Emden 2004: 96) Following physiological theories, namely Hermann von Helmholtz' theory of "unconscious inferences" in his *Handbook of Physiological Optics* (1867), sensual perception is itself an active process of transforming stimuli into experiences.⁵ Contemporary neuro-science provides a more detailed picture of this process, but its essential philosophical implications are clear to Nietzsche already: "we invent most parts of our experiences and we can hardly be forced to watch any process *not* as an 'inventor'. This all will say: we are essentially, since ancient times – *used to lying*. Or, to put it more virtual and hypocritical, say more convenient: You are much more an artist than you know" (Nietzsche *BGE*: 113f). This insight constitutes a significant element of Nietzsche's naturalized epistemology: if we want to understand or explain the epistemic status of mental states, we should refer to bodily features. There is no reasoning beyond our body. But unlike Churchland Nietzsche does not compound this epistemological heuristics with a metaphysical assumption about the ultimate ontology of our mind and body. Regarding this ontology Nietzsche agrees with Du Bois-Reymond: *ignorabimus* – we will not know: "Whether we will understand mental processes with reference to material conditions is one question, very different from another, whether these processes are the product of material conditions. The first question could be denied without deciding about the second, let alone denying it, too" (Du Bois-Reymond 1872: 75). Friedrich Albert Lange already argued along these lines, saying that "notwithstanding all scientific progresses" even "a fully developed theory of brain-functions" would not close the gap between the phenomenal experience of a unified perception and the scientific image of physico-mechanisms (Lange 1866: I,15). Scientific insights point towards a naturalized epistemology, and we might well be inclined to reject the traditional dualism of mind and body. But ultimately, scientific findings could not justify their own metaphysical presuppositions; we will never know.

Consequently, if Nietzsche points out "There is more sagacity in thy body than in thy best wisdom" (Nietzsche *Za I*: 40) he does not aim to present a new, scientific truth. He gives an alternative interpretation and "that all interpretations so far are perspectival evaluations, by means of which we succeed living – this goes through my works"

(Nietzsche *Nachlass autumn 1885*: 2 [108]). It is impossible to separate alternative interpretations into true and wrong ones, but they could and should be valued "from the optics of life" (Nietzsche *GT*: 14). These optics are the result of cultural experience. As opposed to Churchland's metaphysical prejudice, Nietzsche provides a naturalized standard and an experienced reason why the concept of reasonable bodies is indeed *better* than traditional folk-psychology. Plato's dualism is no longer convincing, Churchland's new epistemology provides a much more promising genealogy of our mind, and I believe Nietzsche would critically approve it. But Nietzsche avoids the trap of a somewhat naive optimism regarding the sciences and their capacities to provide a basis for normative judgements. Why should we prefer a neuro-computational worldview? Short of a satisfactory account of his version of scientific realism, Churchland's value-judgment towards a new, better, and more scientific conceptual framework is lacking argumentative support. It is – for fundamental reasons – unlikely that such support might be provided by further research, because realism is a philosophical, not a scientific issue. Consequently, we might prefer Nietzsche's pluralistic perspectivism and frame our phenomenal world in a conceptual, metaphorical web, which would suit us well as reasonable bodies.

Notes

¹ Essential ideas of this paper were developed while I was enjoying the generous hospitality of Paul Churchland and his colleagues, namely Georgios Anagnostopoulos, Jerry Doppelt and Tracy Strong, at the University of California at San Diego. My stay in 2005/06 was funded by the German Exchange Council (DAAD). I am especially grateful to Paul Churchland for providing me with a yet unpublished book, out of which I quote occasionally.

² I outlined my views on Nietzsche's philosophy of science as a radicalization of Kant's in (Heit 2005).

³ Consequently, the habit of calling such a framework 'conceptual' should be taken metaphorical.

⁴ This commitment has some beautifully idiosyncratic features, too, when Churchland confesses: "At several points in the reading of van Fraassen's book (1980), I feared I would no longer be a realist by the time I completed it. Fortunately, sheer doxastic inertia has allowed my convictions to survive its searching critique, at least temporarily [...] I am a scientific realist, of unorthodox persuasion" (Churchland 1989: 139).

⁵ Nietzsche borrowed this book from the Basel library in spring 1873; in his relation to Helmholtz cf. Reuter (2009: 40-55).

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