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On the Standards of Conceptual Change

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Abstract: It is a necessary condition for recognising change that there is a yardstick against which the change can be perceived. The same applies to changes that philosophical concepts undergo. This paper delineates standards for recognising conceptual change that meet the requirements of conscientious history of philosophy. More particularly, we want to argue for the need of what we will call non-textual standards. These are features of the world of experience that must be assumed to be shared between us and the historical authors we study. While they must be used in tandem with the recognised contextual standards of conceptual change, we will argue that without recourse to at least some non-textual standards, important kinds of conceptual change will remain inexplicable.

Keywords: Anachronism, conceptual change, historicism, history of philosophy, realism.

1. Introduction

A necessary condition for recognising change is that there is a yardstick against which the change can be perceived. The same applies, obviously, to changes that philosophical concepts undergo. Our aim in this paper is to delineate *standards* for recognising conceptual change that meet the requirements of conscientious history of philosophy. More particularly, we want to argue for the need of what we will call *non-textual* standards. These are features of the world of experience that must be assumed to be shared between us and the historical authors we study. While they must be used in tandem with the recognised *textual* and *contextual* standards of conceptual change, we will argue that without recourse to at least some non-textual standards, important kinds of conceptual change will remain inexplicable.¹

Conceptual change has become a pressing historiographical problem in the wake of Thomas Kuhn's influential theory of the historical development of science. In Kuhn's holistic model, scientific concepts are embedded in conceptual schemes from which they obtain their meaning, and change between

¹ This paper expands on the central insights of J. Kaukua & V. Lähteenmäki, 'Subjectivity as a Non-Textual Standard of Interpretation in the History of Philosophical Psychology', *History and Theory* 49/1 (2010), 21–37, by focusing on the problem of conceptual change, which was neglected in the earlier paper, and by considering the non-textual standards in relation to the historiography of philosophy at large.

concepts is primarily conceived to take place between entire schemes.² When the concepts' relations to their referents and the neighbouring concepts are restructured to a sufficient degree and when central concepts of a theory are replaced by new concepts, even if the same term might be used for both the old and the new concept, it makes sense to say that the entire theoretical framework has changed. But the Kuhnian approach took an extreme form of conceptual replacement between two *incommensurable* theoretical frameworks as paradigmatic. Even if we set aside the question of whether incommensurability of theories is a viable notion in the first place,³ it seems uncontroversial to say that many, if not most intellectual historians are interested in much more gradual conceptual developments.

Kuhn's strong holism is by no means a foregone conclusion in the philosophy of history. As Nancy Nersessian has remarked, "it is only through fine-structure analyses of actual conceptual changes in science that we can discern the nature of the problems a satisfactory account of conceptual change needs to solve",⁴ and models have been designed precisely for the tracing of such subtler shifts between concepts. To mention just two recent examples, Jouni-Matti Kuukkanen has introduced an important distinction between the core and the margin of concepts, which allows the historian of ideas to both ground the identity of two distinct concepts in their core features and to explain their differences by means of the marginal features.⁵ Building on Kuukkanen's work, Arianna Betti and Hein Van den Berg have developed a "model approach" to the history of ideas in which the historian abstracts a functional model that allows the study of the similarities and the differences between conceptual systems in a way that can meet the critiques directed at the history of ideas.⁶

Our non-textual standards are intended not to replace but to complement such approaches. A common feature of both Kuukkanen's and Betti and Van den Berg's models is their focus on the interrelations between concepts at the expense of the important question of the concepts' semantic relations to the world. In the following, we want to argue that the semantic question is a ubiquitous, albeit frequently

² The *locus classicus* is T. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press 1970). For a brief overview of the early reception of Kuhn's seminal ideas, see S. Vosniadou, 'Conceptual Change Research: An Introduction', in S. Vosniadou (ed.), *The International Handbook of Research on Conceptual Change* (New York: Routledge 2008), xii–xiv.

³ For a classical critique of incommensurability, see D. Davidson, 'On the Very Idea of a Conceptual Scheme', in D. Davidson, *Inquiries into Truth and Interpretation* (Oxford: Oxford University Press 1984); and for a more general introductory discussion of the debate, cf. T. Arabatzis & V. Kindi, 'The Problem of Conceptual Change in the Philosophy and History of Science', in Vosniadou, *The International Handbook of Research on Conceptual Change*, 361–364.

⁴ N. Nersessian, 'Methods of Conceptual Change in Science: Imagistic and Analogical Reasoning', *Philosophica*, 45/3 (1990), 33–52: 34.

⁵ J.-M. Kuukkanen, 'Making Sense of Conceptual Change', *History and Theory* 47/3 (2008), 351–372.

⁶ A. Betti & H. Van den Berg, 'Modelling the History of Ideas', *British Journal for the History of Philosophy* 22/4 (2014), 812–835.

tacit, part of historical reconstruction. This is particularly the case in the historiography of philosophy, driven as it is by the principle of charity. Our claim is that if we want to interpret historical philosophies in ways that represent them at once as intellectually coherent, endowed with explanatory power, and plausible even in their historical unfamiliarity, we are forced to make assumptions about a world that we know from our own experience but that is never exhaustively described in any text.

These assumptions function as a standard against which to describe and explain conceptual change. As such, they complement the standards derived from textual and contextual evidence when the latter are insufficient. They consist of nothing more than the smallest common denominator sufficient for a reconstruction of historical theories and the change between them in a way that makes those theories *understandable* within the historian's own conceptual scheme. They are *non-textual* precisely because functionally they are surrogates for textual evidence that is not yielded by either the primary sources or their context. They are *ahistorical* insofar as they are supposed to be common to different historical contexts, our own and that of the texts we study. They are *heuristic* posits and therefore always subject to critique and potential rejection.

In the following, we begin with a more detailed characterisation of two recognised approaches for tracing and explaining conceptual change. The first of these is the contextual framework that is applied to some degree in all historiography but has been particularly emphasised in the intellectual history of political thought. The second is particular to the history of science, the material of which is unique in the sense that it often includes a detailed description of the *reference* of the theoretical concepts of science, and thus allows the historian to trace and explain conceptual change between and within scientific paradigms on the basis of direct textual evidence. Our choice of these two examples is instrumental: on the one hand, they help bring to the fore how these approaches rely on standards; on the other hand, recognised and arguably sufficient as the approaches are in their respective realms, the reasons for their insufficiency in the history of philosophy are illustrative of the unique features of our field. After a brief argument for the need in the history of philosophy of both contextual and referential, as well as the frequent lack of textual descriptions of the referential standard, we proceed in the third section to a brief account of the problematic consequences of applying only one of the two standards. In the fourth and final section, we will then characterise in greater detail how the two standards function in tandem, using history of philosophy as our point of reference.

2. Two standards of conceptual change

If we accept the claim that standards are needed for tracing and explaining conceptual change, the next question to ask is what those standards are. In order to see what has in actual fact been adopted as a standard, we may look at tried and tested historical practices. One such case is, of course, the intellectual historian's context. In Quentin Skinner's classical argument,⁷ instead of tracing the trajectories of abstract ideas through the centuries, the intellectual historian should primarily aim at a reliable historical reconstruction of the intentions of the historical authors she studies. These intentions can never be reliably read out of the authors' own texts exclusively, simply because the temporal gap between the historian and her object of study is prone to make her blind to the connotations and nuances of those texts. To use Skinner's own example, one might completely miss instances of irony in a text, leading one to read it at face value and thus to misconstrue its intended meaning. The only way to a more reliable reconstruction is to look at the text's context, that is, other roughly contemporaneous texts that provide enough relevant information for understanding the historical text as a speech act of its author.

Skinner's use of J. L. Austin's concept of speech act was intended to point at the different functions our utterances may have, the entire variety of which, and not just the constative expression of facts, should be the focus of the historian's attention. Particularly important in this regard is the performative function of changing the reality in which one speaks or writes. Hence, in reconstructing the intentions of the authors we study, we should not merely, or even primarily, reconstruct their "theories", but instead try to understand what kind of impact they expected or hoped their writings might have. It is characteristic of Skinner's own work, as well as of a considerable share of the sort of contextually rigorous intellectual history informed by the methodological discussions of the so-called Cambridge school, that it has focused on the history of political philosophy, or political writing in a more general sense. This might partly explain why the role of contextual explanation has become so important as to border on the status of a self-sufficient methodological principle. The context available to a political historian *is* extraordinarily rich, consisting of other texts in political theory as well as various traces of the authors' place in the more general social context, their social, political, and economical affiliations and allegiances, their political opponents or enemies, and so forth. Such a wealth of contextual material indeed encourages one to consider the literary activity of the objects of study as historical agency in a very concrete sense.

The context, then, provides the stable background—or in our terms, standard—of tracing and explaining conceptual change, conceived as the result of contextually motivated speech acts, or to use another metaphor, moves in the language game of the political debate. The context functions as a standard by narrowing down the moves available in the language game, or by restricting the conceptual space in which the authors could have performed their speech acts. Just as our familiarity with the rulebook of

⁷ Q. Skinner, 'Meaning and Understanding in the History of Ideas', *History and Theory*, 8 (1969), 4–39.

football determines our understanding of the players' moves on the field and allows us to appreciate both the conventional and the novel ways in which they advance the game, the context provides the framework for reconstructing the full range of the intended meanings of the historical speech acts. By the same token, we can reconstruct instances of conceptual change only against the standard of the context and the conventional meanings of the relevant concepts embedded in it, signalled by the novel or anomalous uses of them by the authors we study.

As an example of a different standard of tracing and explaining conceptual change, let us consider recent work in the historiography of science. In an insightful paper that combines historiographical work with methodological reflection, Theodore Arabatzis makes a case for a stronger integration of the history and the philosophy of science by showing that experimental practices and observational data can provide a stable reference point for tracing conceptual change between scientific theories. He suggests that one of the reasons for the Kuhnian insistence on strong conceptual ruptures, rather than more gradual changes, between scientific theories is due to a "neglect of experiment" and a corresponding focus on the functions the scientific concepts have intrinsic to the theories they constitute.⁸ As a corrective move, Arabatzis builds on the central insight of the causal theory of concepts: in Hilary Putnam's words, "no matter how much our theory of electrical charge may change, there is one element in the meaning of the term 'electrical charge' that has not changed in the last two hundred years . . . and that is the reference."⁹ It is this common reference between two concepts, or two theories, that can provide the common standard for tracing and explaining the historical change between them.

The point of such a claim is not to deny that scientific concepts also have a meaning intrinsic to the theories in which they are used, but to focus on the interconnection between these two dimensions of their meaning.¹⁰ Furthermore, Arabatzis recognises that there are different kinds of scientific concepts. One useful distinction is between concepts introduced in an early phase of the development of a field of science and those formed in a later, more mature phase. The first kind of concepts, which Arabatzis calls "phenomenal", are formed "with a primarily descriptive and classificatory aim, namely to impose order in a domain of natural or experimentally produced phenomena". As a consequence, "the generation of these concepts and the establishment of observable facts and regularities are two aspects of a single process".¹¹

⁸ T. Arabatzis, 'Experimentation and the Meaning of Scientific Concepts', in U. Feest & F. Steinle (eds.), *Scientific Concepts and Investigative Practice* (Berlin & Boston: De Gruyter 2012), 150, 152.

⁹ H. Putnam, 'Introduction: Philosophy of Language and the Rest of Philosophy', in H. Putnam. *Mind, Language, and Reality: Philosophical Papers, Vol. 2* (Cambridge: Cambridge University Press 1975), ix; cited according to Arabatzis, 'Experimentation and the Meaning of Scientific Concepts', 154.

¹⁰ Arabatzis, 'Experimentation and the Meaning of Scientific Concepts', 156–157.

¹¹ Arabatzis, 'Experimentation and the Meaning of Scientific Concepts', 157.

By contrast, the function of the second type of concepts “is primarily explanatory, namely to account for previously established facts and regularities”. In so doing, they typically “refer to hidden entities and processes that lie deeper than (and give rise to) the observational realm”.¹²

Now, for our purposes it is important to note that in the formation of both concepts, observational data described explicitly in the texts that use them plays a central role. This is obvious in the case of concepts of the first type, aptly termed “phenomenal” precisely because they are designed to establish scientific phenomena. In order to perform this task, the concepts must be formed in close connection with an explicit description of the observational data that they refer to. The texts introducing these concepts are likely to include highly detailed descriptions of those data, a characteristic quite unique to texts in modern empirical sciences. But this intimate connection to descriptions of observational data is not exclusive to texts that witness the formation of phenomenal concepts, for also the second type of more theoretical concepts take their cue from the “previously established facts and regularities” that constitute the state of contemporaneous scientific consensus. These established facts and regularities are the established scientific phenomena that the theoretical concepts set out to explain. While they may not always be exhaustively described in the texts that introduce the theoretical concepts, the historian of science can reconstruct them by means of earlier texts in which that descriptive task is performed. Hence, there is no fundamental difference between the two kinds of concepts with regard to their referential relation to observational data. In Arabatzis’s words, “scientists construct [the theoretical concepts] with an eye to the particularities of experimentally obtained information”, and “in that sense [hidden entity] concepts are constructions from experimental data”.¹³ These data “can be robust across theory change”,¹⁴ and scientists disagreeing about their theoretical explanation by means of “purely theoretical” concepts referring to observationally hidden entities may agree about them. Indeed, this agreement is a necessary condition for genuine disagreement on the theoretical level, for unless we are willing to conclude that the differing scientists are simply speaking across each other, we have to suppose that they depart from a common ground.¹⁵ The methodological moral to draw from this is that

the different levels of ‘theory’ involved in experimentation and their different temporalities can elucidate a condition for the referential stability of [hidden entity] concepts According to that condition, an

¹² Arabatzis, ‘Experimentation and the Meaning of Scientific Concepts’, 157.

¹³ Arabatzis, ‘Experimentation and the Meaning of Scientific Concepts’, 160.

¹⁴ Arabatzis, ‘Experimentation and the Meaning of Scientific Concepts’, 160.

¹⁵ Arabatzis, ‘Experimentation and the Meaning of Scientific Concepts’, 161–162.

evolving [hidden entity] concept continues to refer to the same ‘thing’ as long as its experimental manifestations remain stable or grow (more or less) cumulatively.¹⁶

In other words, the detailed description of observational data characteristic of texts in the empirical sciences functions as the stable reference of the theoretical concepts and provides the historian of science with a standard for tracing and explaining conceptual change.

The availability of such a standard in the textual material itself has methodological consequences. In an earlier paper directed at the realism of experientially focused historians of science, such as Ian Hacking, Arabatzis ends up endorsing Kuhnian anti-realism, or at least some kind of agnosticism, as the attitude proper to a historian of science. Taking seriously the fact of radical historical change in the sciences, the historian of science is faced with the choice of either judging past science a failed attempt at the truths reached by the present state of the art or avoiding such normative judgments and opting instead for a historical reconstruction of past science in its own terms.¹⁷ The first, realist attitude, however, has problematic consequences once we turn to consider the observational data to which the scientific terms primarily refer. For instance, in the absence of the observational data of contemporary physics, “could we really claim that Newton was referring to light-quanta when he used the term ‘light-particles’?”¹⁸ Such obvious difficulties with the realist position are further accentuated by the fact that the historian of science does not need a metaphysically loaded notion of reality to deal with the question of the reference of scientific theories. In order to avoid the anachronism of assessing past scientific theories against the standard of contemporary conceptions of reality, it is methodologically much more plausible to take an agnostic stand on the metaphysical question and be content with the descriptions of the observational data one actually finds in the texts.

As sound as these remarks on the methodology of the history of science are, it is important to recognise that scientific texts are quite unusual in the fact that they describe the reference of their concepts in the first place, and at such a level of detail. Thus, the historian of science can endorse methodological anti-realism due to the nature of her material. The richness of description of the observational data, to which scientific concepts refer, finds an interesting parallel in the intellectual historian’s context, which provides an abundance of hints concerning the possible political objectives and interests motivating the historical authors’ literary activity. In both fields, the historian can work without the assumption of further standards, because she has at her disposal ones that are internal to the material under investigation and

¹⁶ Arabatzis, ‘Experimentation and the Meaning of Scientific Concepts’, 162–163.

¹⁷ T. Arabatzis, ‘Can a Historian of Science Be a Scientific Realist?’, *Philosophy of Science*, 68/3 Suppl. (2001), 531–541: 539.

¹⁸ Arabatzis, ‘Can a Historian of Science Be a Scientific Realist?’, 540.

temporally tied to the period that is being studied. Hence, in these fields the historian can avail herself of a radically historicist methodological attitude without fatal consequences.

However, such internal and radically historical standards are not always sufficient. Let us consider some illustrative examples that something more is needed for proper understanding of conceptual change in a wider array of historical endeavours. In a recent book, the mediaeval intellectual historian Joel Kaye presents a balanced re-evaluation of the debate concerning the proper interpretation of the mediaeval term ‘just price’ (*iustum pretium*) between earlier historians, such as Raymond de Roover, according to whom “the just price . . . was simply the current market price”,¹⁹ and their more recent critics, according to whom the use of the term ‘market price’ to describe the mediaeval understanding of price is downright anachronistic.²⁰ Kaye argues not only that there is plenty of contextual evidence for a fluctuation of the prices of goods according to the principle of supply and demand, but also that the writings of commercial actors as well as their monastic overseers are witness to a highly developed awareness of these causal relations,²¹ much as one would expect from anyone successfully practicing the trade. He then goes through a more detailed review of a series of legal, philosophical and theological texts, tracing the development of the relations between descriptive and normative uses of concepts such as ‘market price’, ‘equity’ and ‘common good’.²² The discussion ends at the Franciscan theologian Peter of John Olivi (d. 1298), whose new idea of the free determination of market prices²³ as a way of realising the highest social principle of common good was a genuine “break with the past”.²⁴ Kaye thus grants the critics of the earlier view that significant conceptual change in the concept of value and its determination does take place at the tail end of the thirteenth century, but he shows that instead of a radical break with past economic models, this should be understood as a new way of applying the received conceptual framework.

Of interest to our topic is that a precondition for Kaye’s estimate of this development is the recognition that the authors on both sides of the conceptual divide were speaking the same language and acquainted with the same phenomena related to trade and exchange. Thus, Kaye’s central aim is to convey the point

¹⁹ R. de Roover, ‘The Concept of Just Price’, *Journal of Economic History*, 18 (1958), 418–434: 420; cited according to J. Kaye, *A History of Balance, 1250–1375: The Emergence of a New Model of Equilibrium and its Impact on Thought* (Cambridge: Cambridge University Press 2014), 78.

²⁰ For a brief description of the opposite sides, with complete references, see Kaye, *A History of Balance*, 78–79.

²¹ Kaye, *A History of Balance*, 79–80.

²² Kaye, *A History of Balance*, 81–121.

²³ To be exact, Olivi did recognise occasions when interventions in the determination of market value are necessary (Kaye, *A History of Balance*, 112, 118), but these were subsidiary to the general claim.

²⁴ Kaye, *A History of Balance*, 125.

that the *sense* and *experience* of the dynamic of urban life and urban exchange in this early period served as a primary site for the *formation* of the new model of equilibrium, as well as a primary site of its reflection. In short, for Olivi, as for others, the recognition of systematic self-ordering, self-equalizing, and self-balancing that defines the new model was activated and shaped in no small part by the experience and observation of urban economic life.²⁵

Importantly, though, such gradual changes in the dynamics of mediaeval trade can only be used as an explanatory factor if we give up on the strict requirement of contextual standards for measuring conceptual change. We can only make sense of the theologians' varying reactions to the economic reality of their time if we are entitled to think that their understanding of the facts of that reality, or their "sense and experience" of it, was largely shared. But this we are forced to *assume* without a sufficient description of it by any of the authors, and thus without decisive textual or contextual support.

Comparable situations are not uncommon in the history of philosophy. Although contextual explanation plays a primary methodological role in all historically conscientious historiography of philosophy today, it alone is not sufficient. This is the case at least partly because our interest in historical theories is not limited to their intentions and expected or realised impact on the public arena. In addition to historical reconstruction, we are equally interested in the possible truth of past theories, and for this purpose the historical reconstruction must be combined with a maximally charitable rational reconstruction. The aim of such a combination is to assess the theoretical virtues of historical thought, that is, its consistency and explanatory power from the point of view of the questions and concerns of the historical authors. Contextual analysis is an invaluable means of spelling out these concerns, which are often implicit in a historical author's work. For example, if we want to understand why a thirteenth-century scholastic like John Duns Scotus should want to replace Aristotle's statistical interpretation of modalities, in which possibility means realisation at some point in time, with a radically novel theory of synchronic unrealised possibilities, we have to penetrate into the questions raised in the theological literature prior to and contemporaneous with Scotus, which were not always obviously related to modal metaphysics such as questions concerning God's omnipotence.²⁶ By the same token, in order to make sense of the variegated discussion of consciousness in early modern philosophy, we have to realise that it was motivated by a number of distinct concerns, such as the mind-body problem, the immortality of the soul, freedom of the will, the distinction between human and non-human animals, the metaphysical grounding of self-

²⁵ Kaye, *A History of Balance*, 127.

²⁶ This example is drawn from S. Knuuttila, *Modalities in Medieval Philosophy* (London & New York: Routledge 1993).

knowledge, the nature of intentionality, questions of selfhood and personal identity, and questions concerning the methods proper to the scientific study of the mind.²⁷

However, even the most conscientious research into the context is unlikely to give us the referential counterpart that is required for estimating the explanatory virtues of the different historical theories. Similarly, the textually and contextually available standards of the intellectual historian and the historian of science, although crucial, are seldom sufficient in the history of philosophy for describing and explaining conceptual change. In the absence of textually and contextually available description of the reference of concepts, we are bound to introduce *non-textual* assumptions about a world or a phenomenal experience that we share with the authors we study. Philosophical discussions frequently apply their concepts to the world of everyday experience, which the authors by and large simply expect their interlocutors to share and be familiar with. Experience of that world is by no means unproblematic, indeed it is frequently contested, and different writers may point our attention to different features of the world, depending on the needs of their argumentative concerns. To stick with the example of early modern discussions of consciousness, not all the enumerated tasks need to be present in any given theory, and the successful fulfilment of different tasks will require paying attention to different aspects of conscious experience. But if we want to understand how and why the different debates were interrelated for the early modern authors, we have to find access to a phenomenal basis to which all those different ways of pointing attention refer. Kuukkanen's distinction between the core and the margin of a concept is a powerful tool for describing such changes, but a consideration of the referential phenomena gives the historian of philosophy an additional tool for understanding and explaining the variation in the marginal elements.

Since non-textual standards are intended to hold across historical divides, they are also ahistorical. Quite often, these assumptions are trivial, which may be why they have been largely ignored. For instance, no one seriously contests, even if the textual evidence were lacking, our assumption that rocks hauled upwards eventually fell down in Aristotle's Athens the way they do in our immediate surroundings. But as already exemplified, there are cases which show that not all our assumptions are equally trivial. The uncritical and anachronistic adoption of contemporary beliefs as robust standards obviously makes us blind to historical reality. However, as anathema as such assumptions are to the conscientious historian, the uncritical belief that we can do entirely without them is at the equal peril of making the historical authors completely alien and incomprehensible to us. Let us consider these risks by way of two examples.

²⁷ For a historical study of some of these questions, see U. Thiel, *The Early Modern Subject: Self-Consciousness and Personal Identity from Descartes to Hume* (Oxford: Oxford University Press 2011).

3. *Two symptomatic cases*

A robust standard may be effective in picking out large-scale conceptual change, but this comes at the cost of a related inability to perceive the specific features of the different concepts embedded in their contexts. We can illustrate this by considering Paul Thagard's three-stage analysis of the development of the concept of mind through its theological, qualitative, and mechanistic stages.²⁸ These stages in effect constitute what we have called a non-textual standard of conceptual change. As such a standard, it has qualities of its own, and it is by virtue of these qualities that it enables the historian to detect and explain change in the concepts it is applied to. Thus, a great deal of historical explanation hinges on it. The appropriateness of the applied standard is always relative to the particular theories and concepts in question, but its choice is also determined by the historian's more general aims, such as the intended level of detail, and even extrinsic cultural or political objectives. There is hence no point in giving a normative list of the virtuous qualities of standards, but it is important for the historian's disciplinary self-understanding, and useful to actual interpretive practice, to see that and why limitations in the historical explanation of conceptual change ensue from features intrinsic to the adopted standard. For this purpose, consider the following statement by Thagard:

Adopting a mechanistic view of mind requires abandoning or at least modifying traditional ideas about free will, moral responsibility, and eternal rewards and punishment. This threat explains why the last 50 years of demonstrable progress in mechanistic, neurocomputational explanations on many aspects of thought are ignored by critics who want to maintain traditional attitudes. Change in the concept of mind . . . is affected not only by cognitive processes such as theory evaluation, but also by emotional processes such as motivated inference.²⁹

Now, we recognise that Thagard's interest is not exclusively historical, and that the question is also related to the different conceptual frameworks present in our time, the ultimate purpose being to show why the scientifically superior concept of cognitive science is not uniformly accepted by our contemporaries. Nevertheless, Thagard makes his case by means of a story of historical progress, and it is therefore legitimate to evaluate his chosen standard in terms of its historiographical merits, that is, its capacity to elucidate the historical concepts in their historical setting. In this regard, it is striking that all the different concepts of mind, regardless of the historical "stage" they belong to, are actually measured against the exclusive standard of the "mechanist" framework of contemporary cognitive science. It is this

²⁸ Thagard, 'Conceptual Change in the History of Science: Life, Mind, and Disease', in Vosniadou, *The International Handbook of Research on Conceptual Change*, 374–387.

²⁹ Thagard, 'Conceptual Change in the History of Science', 384.

choice of the present concept as standard that allows portraying the concept's history as a story of linear conceptual improvement. However, no historian of ancient, mediaeval or early modern philosophy will accept that it was simply out of ignorance that thinkers in the historical periods corresponding to the so-called theological and qualitative stages studied the phenomena we now classify as proper to the mind and the mental in connection with questions from which the mechanist framework has distanced itself, such as the freedom of the will, moral responsibility, diachronic personal identity, the order of nature, or the question of the first principles of knowledge. Accepting the principle that the mental phenomena can be considered in many different ways and with regard to a number of different objectives, the conscientious historian will take such questions into account as contextual factors that must guide her interpretation. If we choose the reality as conceived in the state of the art of modern science, including the often implicit beliefs concerning which questions and phenomena are valid or interesting, we rob the historical theories of the explanatory potential they might have with respect to other possible aspects of the concept under investigation. At the same time, something functionally equivalent to Thagard's robust standard is functionally invaluable. As we have noted, we do need the standard of an assumed common reference for tracing conceptual change, but we also need to be aware of—and explicate, if possible—both the constraints of our standards and the explanatory possibilities they endow us with.

The question of whether the history of science is in some acceptable sense a teleological story of improvement is a discussion of its own, and one that we will not engage in here. But it is important to note that the moderate methodological realism entailed by the rejection of the radical incommensurability of conceptual schemes can remain neutral with regard to the question of whether historical theories should be conceived as more or less failed attempts at the achievements of our contemporary theories. Of course, such presentist convictions are undermined by our incapacity to ascertain whether we are indeed in the possession of an incorrigible conception of reality. This is an observation that encourages some form of historicism, but although obviously related, it is distinct from the methodological principle of the possibility of radically different ways of conceiving the shared world. This tension between methodological realism and foundational historicism signals an internal complexity at the heart of the idea of conceptual change: it is at once both continuous and discontinuous as well as both cumulative and non-cumulative; we do sometimes witness cases of Kuhnian paradigm change, but at the same time we want to relate the new theories to their predecessors through “analyzable reasoning processes”.³⁰

Historical explanation of the kind of fine-grained conceptual change we are concerned with thus cannot remain completely unaffected by the pull of realism because the straightforwardly historicist position threatens to render change inexplicable. But as important as it is to preserve the theoretical continuity

³⁰ Nersessian, ‘Methods of Conceptual Change in Science’, 34

from one thinker to another, our emphasis here is on the conditions of detecting minute differences in actual cases of conceptual change. Philosophical texts seldom contain exhaustive descriptions of the worldly phenomena to which their concepts refer, and so the referential common point of reference has to be assumed. In this regard there is scarcely anything to object in Thagard's adoption of a standard that is not founded on textual analysis, but for a historian it is extremely problematic to make use of such a robust standard derived from any particular historical phase. Instead, we need the smallest common denominator that allows us to detect and explain change in terms of the motives and objectives underlying historical theories that are temporally apart from one another. It allows us to trace the change between the historical theories and make those theories understandable within our own conceptual system. In order to avoid the simple projection of present notions onto thinkers who would not have accepted or even understood them, we have to be particularly critical about what we include in the assumed standard. In the absence of independent, contextual or systematic, arguments for the historical authors' acceptance of features peculiar to a robust standard, we have little reason to think that those features are really shared.

On the other extreme, the complete rejection of any standard, for which no explicit textual support can be found, risks incapacitating us from detecting change, because it compromises our understanding of the texts in the first place.³¹ In a remarkable paper, Stephen Everson has argued that the Cyrenaic sceptics (fl. fourth c. BCE) held processes of perception to involve nothing subjective at all on the grounds that like all processes, they are entirely material.³² Everson's focus is on the sceptics' descriptions of the material changes that take place in the sense organs during perception, and the claim is that according to the sceptics, the whole process of perceiving is describable in objective terms. The rejection of subjectivity in the ancient sceptics is thus rooted in the idea that in order for subjectivity to occur in the first place, "the objects of awareness [should] be mental items such as sensations rather than affections of material substance."³³ Subjectivity is taken to presuppose ideas as representational entities that are non-material by nature, whereas for the sceptics, objects of awareness are purely material and hence not subjective. Rather, appearances (*phainomena*) and affections (*pathē*), which we might be inclined to think of as mental or subjective, are not essentially different from corporeal entities, indeed the former are just instances of the latter.³⁴ When the sceptics speak of appearances, we should understand them to mean bodily states that are describable in objective terms as material events.³⁵

³¹ The following analysis is adopted from Kaukua & Lähteenmäki, 'Subjectivity as a Non-Textual Standard', 32–34.

³² S. Everson, 'The Objective Appearance of Pyrrhonism', in S. Everson (ed.), *Companion to Ancient Thought 2: Psychology* (Cambridge: Cambridge University Press 1991).

³³ Everson, 'The Objective Appearance of Pyrrhonism', 143.

³⁴ Everson, 'The Objective Appearance of Pyrrhonism', 140.

³⁵ Everson, 'The Objective Appearance of Pyrrhonism', 137.

One might think now that even though the *objects* of awareness are not treated as subjective, the awareness itself might still count as subjective, at least to the extent that it seems to evade objective or material description. But as Everson does not discuss that possibility, and instead denies any “gap between the material states of the subject and his experience”,³⁶ there is nothing left to be designated as subjective. Now, if there is no difference between a material change in a sense organ and an experience of that change, we might ask whether using the term ‘experience’ is at all justified. In any case, we have scant means to distinguish certain material changes as something experienced from other material changes that are not to be counted as such. Provided that a person has no such special relation to changes in her organ of vision that would count as her seeing white, on what grounds should we take the material change involved in seeing to be a *perception*, while other changes, such as the corruption of one’s eye, are instances of something else?

While in the previous case we identified the chosen standard as an overly robust projection of a contemporary conceptual framework, and thus susceptible to failure in explicating historical theories in their own terms, here the problem is the lack of shared ground. We are not likely to understand the details of a historical theory of perception if we fail to acknowledge that subjectivity, in some pre-theoretical sense, constitutes the initial motivation for such an enterprise by singling out perception as a phenomenon that demands specific explanation. In the complete absence of explicit mention of subjectivity as a constituent of perceptual experience, we have to assume it as a piece of shared ground between us and the Cyrenaics. Even if we accept that the experiential phenomenon of perception is the starting point for the analysis of perception in post-Cartesian philosophy, it does not follow, on pain of incomprehensibility, that the Cyrenaics did not have subjective experiences. Even if a phenomenon never received the attention of explicit textual expression by an author, it may still have been tacitly operative in that author’s work. If, on the contrary, we are warranted to attribute the recognition of a phenomenon to a historical author only when it is explicitly discussed in either the primary text or its relevant context, the logical conclusion is a rather extreme version of the Kuhnian position: there are only replacements of conceptual schemes.

To sum up, we are not willing to compromise the intellectual historian’s noble principle of the avoidance of anachronistic reconstructions of historical thought. It is a necessary condition for historically sound tracing and explanation of conceptual change that we refrain from attributing our own conceptual schemes, along with their implicit and explicit objectives, interests, foci of attention, and so forth, to the historical authors. We must also beware of assuming teleological principles of progress in the historical process that connects the past to our own time. By the same token, we must be prepared to accept ways of thinking that are, at least potentially, radically different from our own. Although the historian’s

³⁶ Everson, ‘The Objective Appearance of Pyrrhonism’, 144.

explanatory perspective is by default better informed in the sense that her temporal vantage point allows her to explain aspects of the historical authors' thought that may have been opaque to them, for instance by articulating culturally shared presuppositions that the authors might not have been fully aware of,³⁷ this superiority of the historical perspective should never be confused with the belief that her contemporary scientific beliefs, questions, and interests are closer to the truth than those of her objects of study. In this sense, the historian should commit to a sort of methodological anti-realism, or at least agnosticism, concerning the truth of one's own beliefs about the relevant aspects of reality.

However, this methodological anti-realism can be taken too far. If we allow ourselves to reconstruct a historical theory exclusively from those concepts and ideas that are explicitly mentioned in the sources, we run the risk of making them incomprehensible from the point of view of our own conceptual framework. As the example of perception completely lacking in subjectively experienced phenomenal content shows us, the historical theory may then become so alien to us that we are not even able to indoctrinate ourselves into it. In such a situation, the explanation of conceptual change to that historical theory, within its framework, or from it to another theory, becomes impossible. We can register that some changes are taking place by noting terminological changes, for instance, but this scarcely amounts to an investigation of *conceptual* change.

Hence, there are cases where we need to steer a middle course between the Scylla of strict anti-realism and the Charybdis of presentist chauvinism. In addition to the tried and tested textual and contextual standards of interpretation, we must add the assumption of a shared experience of the world, conceived in the broad sense of including our "internal", subjective world, against the stable reference of which we can trace and explain both large-scale shifts between conceptual frameworks and incremental changes within one framework. While this may sound trivial, such an assumption is not without problems. Our experience of the world is mediated by our own concepts and laden with the theories, scientific or otherwise, of our own time. It is extremely difficult, if not impossible, to draw a definite line between "pure" appearance and a conceptually constructed perception. This is why the shared world of experience must be conceived as a heuristic assumption that we must be prepared to constantly revise as part of our historical work. Indeed, the critical reflection of non-textual standards should be a part of the method of working with them. We have to be constantly wary of the possibility that the common denominator we are assuming may not be the smallest possible one, and that our assumption of the shared world in fact anachronistically exports our own concepts, concerns, interests, and questions to the historical authors.

³⁷ A case in point is J. Hintikka, 'Time, Truth, and Knowledge in Aristotle and Other Greek Philosophers', in J. Hintikka. *Knowledge and the Known: Historical Perspectives in Epistemology* (Dordrecht & Boston: D. Reidel 1974).

Specific non-textual standards used in a historiographical work should be—and in fact often are, albeit not in these terms—a part of the scholarly dispute over the validity of historiographical interpretation and explanation.

4. *Non-textual standards in practice*

In cases where non-textual standards are relevant for historiographical work, the anti-realism that Arabatzis commended as the methodological attitude for historians of science must thus be replaced by something we could call *moderate heuristic realism*. The objective of this attitude is to provide us with the functional equivalent of the shared phenomenal basis, which Arabatzis argued to constitute the stable referent of different scientific theories, and which can then be relied on in explanations of incremental and gradual conceptual change. Non-textual standards are needed to perform this function in cases, abundant in the history of philosophy, where the relevant stable reference is not provided by the texts.

In order to further elucidate the need for non-textual standards, as well as the fact that they are being applied, albeit not in these terms and perhaps mostly unaware, let us consider an example of successful explanation of conceptual change in the history of philosophy. Robert Wisnovsky's *Avicenna's Metaphysics in Context* is a formidably detailed analysis of how the central ideas of Avicenna's (d. 1037) metaphysics emerge through a sustained attempt at meeting the theoretical challenges of his contemporaries. Wisnovsky reconstructs Avicenna's ways of meeting these challenges by means of painstaking contextual analysis that brings together a wide selection of representative passages in which a given concept is used and then reads them in the larger context of the work from which they derive: the author's entire corpus, as well as other contemporaneous, earlier, and even closely related later texts. On this basis, such an analysis then aims to reconstruct a conceptual scheme that allows us to study the concept in its natural setting. This is all well and good, but in practice contextual analysis does not always suffice. For instance, in elucidating Avicenna's highly abstract concept of 'thingness' (Ar. *shay'yya*), which is developed in the broad context of refuting contemporary theologians' assumption of the mind-independent reality of non-existent things which despite their non-existence are available to God's choice of creating them, Wisnovsky writes:

I think that when Avicenna asserts . . . that the final cause is prior in its *shay'yya* to the efficient cause, he is using the term in one of the early *kalām*³⁸ senses of thing: the notion that a thing (for example, the Day of Resurrection, or my great-great-granddaughter) can subsist mentally in God's – or anyone's – mind, before

³⁸ *Kalām*, which is Arabic for 'speech', is a term used of the strand of systematic theology with the representatives of which Avicenna is debating.

it exists in the real world. Here is an example of how thingness thus conceived works in final causation. I am thirsty and a bottle of soda is in the refrigerator. I want to quench my thirst by drinking that bottle of soda. Quenching my thirst exists in my mind as a final cause. My motion to the refrigerator – the efficient cause of my quenching my thirst – then comes into mind – as a *thing* – before it existed concretely in the outside world. In this sense the final cause is prior in its thingness (prior as a thing, that is) to the efficient cause. This is why Avicenna asserts . . . that “its [i.e. the final cause’s] thingness does not become a cause *unless it occurs as an image formed in the soul*” and “In terms of thingness and *in terms of existence in the intellect*, there is no cause prior to the final cause”.³⁹

In this brief passage, Wisnovsky does something most students of the history of philosophy will be familiar with. He asks us to imagine a situation, one that is so clearly derived from our contemporary world inhabited by things like refrigerators and soda bottles that it is obviously anachronistic in strict analysis, and applies Avicenna’s concept of thingness to that situation in a way that elucidates the concept’s referential relation to the world. The reason why the refrigerator and the soda bottle do not pose a real threat of anachronism is that any reader able to follow Wisnovsky’s argumentation in the first place will recognise them for what they are, namely ways of directing attention at a relevant feature of the world that we do share with Avicenna and his contemporaries, in this case the way in which the objectives of our acts are given to us as motives upon which we proceed to act.

Now, one could raise the objection that we are reading too much into a simple example, which is only intended as a shorthand for elucidating something that could perhaps be spelled out by reference to solid textual evidence. Indeed, one might be able to find a related example of thirst and cool water in Avicenna. That, however, is not the point, for even if such an example were found, one would still need to suppose a connection between the water and the quenching of one’s thirst, and it is rather unlikely that a philosopher, preoccupied with elucidating a precise abstract point, should engage in an account of how water quenches thirst, or a phenomenological description of the related feeling of relief. Thus, in order to understand the example—and thereby the philosophical point—we have to suppose certain similarities between our own experience and that of the historical authors, for which we find no decisive support in the texts or their context.

The non-textual standard of a shared world is crucial for understanding historical texts in the first place, for there is a task, perhaps particularly characteristic of the history of *philosophy*, whose successful fulfilment relies on it: when investigating cases of conceptual change, we are not only interested in reconstructing historical theories as relics from the past, or for their role in the historical story we want to tell. We are also interested in the possible truth of all phases of the process. This means that an

³⁹ R. Wisnovsky, *Avicenna’s Metaphysics in Context* (Ithaca: Cornell University Press 2003), 173.

explanation of change within a conceptual framework or a shift from one framework to another will engage not only with the question of the internal consistency of each framework, but also with the question of their respective explanatory powers. Explanatory power is, of course, always relative to explanatory interests, those questions and theoretical objectives which the authors inherit from their context and which state the explanatory tasks a theory must fulfil. These must be spelled out by contextual means. But the assessment of the explanatory power of the historical theories, even in light of their own questions and objectives, is impossible unless we have a grasp of the phenomena that exemplify the referents of the concepts we are investigating. And because these phenomena, unlike those that provide the referent for theoretical concepts in the empirical sciences, are frequently quite unremarkable and commonplace, it is unlikely that they will find a description of any significant level of detail in the texts.

The assumption of non-textual standards should be coupled with awareness that the world that we experience can be described and conceived in a wide variety of ways, some of which can be very different from those dominant in our own time. It is therefore crucial that we describe the relevant aspects of the non-textual standard of a shared world in ways that allow us to remain sensitive to the historical authors' objectives. If this principle is internalised, there is scarcely a need to pause to reflect upon it—but the perils of ignoring the requirement are exemplified by Thagard's schematic approach to the history of theories of mind. If we assume that the historical authors were interested in just that segment of the full range of "mental" phenomena that constitute the object of contemporary cognitive science, we are bound to reconstruct those authors' discussion as cutely immature attempts at reaching the proper level of abstraction embodied in contemporary science and philosophy. If, on the contrary, we bear in mind the fact that the narrow focus on, say, cognitive capacities, considered in isolation from ethical concerns and other allegedly marginal features, is but one of the many possible ways of abstracting features from the complex whole of the experiential life of self-aware subjects, we can use our familiarity with the relevant phenomena as a basis for assessing the historical authors' more inclusive bundles of explanatory objectives in a historically more perspicacious and rigorous way.

Sticking with the same example, once we refrain from prematurely abstracting the description of the mind's cognitive functions from those other theoretical tasks, the earlier phases in the history of mind or soul will appear radically more plausible, and endowed with considerably greater explanatory power. An analysis building on texts and their context as well as on this non-textual standard will allow us a more informed understanding of the historical process, through which a more inclusive bundle of objectives is narrowed down to those at focus today. We will then have a story not only of what is gained by giving up earlier conceptual frameworks, but also of what is lost thereby. Progress narratives of the history of

philosophy are still possible, and they may be highly informative. But the moral of our story is that such a narrative always comes at a cost, and this cost is due to the choice of a robust non-textual standard or conceptual core.

5. Conclusion

We started from the observation that measuring and explaining conceptual change requires a stable point of comparison against which something can be measured to change. Accounts of conceptual change *de facto* do rely on some such standard or standards, yet their nature is insufficiently discussed in the literature. Perhaps that is just because the role of the standards is often obvious, or even trivial, but as we have argued, this is not always the case. Taking our cue from the central desiderata of conscientious history of philosophy, we have considered different aspects of the standards as they have been applied in the literature. We have argued that depending on their intrinsic properties, the standards enable us to detect and explain conceptual change at different levels of specificity or detail. There is no single ideal level, for different areas of historical inquiry legitimately have knowledge interests of different level of specificity, but it seems a fair assessment that the more robust our standard, the more likely we will fail to perceive the fine-grained development from one historical theory to another. The exclusive application of standards explicitly supported by the texts is equally problematic, because it risks rendering the historical text incomprehensible, or allows us to note only radical ruptures between theories.

There are areas of historiography where text and context often suffice for providing a standard with which to trace conceptual change, such as the intellectual history of political thought, in which the historian's access to the political context may allow determining the range of conceivable public activity, as well as the history of science, in which the relevant observational referents for the theoretical concepts may be explicitly described in the primary sources. But in order to properly understand how to trace and explain conceptual change in historical endeavours more generally, we need to acknowledge that standards of these kinds are not always available. In philosophical discussions, concepts are frequently applied to the world of everyday experience, a world that the authors expect their interlocutors to share and be familiar with. If we are to understand these discussions, we have to make assumptions concerning the relevant features of that world or our experience of it as something we share with the historical authors—even in the absence of textual support. They should consist of nothing more than the smallest common denominator sufficient for a reconstruction of historical theories and the change between them in a way that makes those theories understandable within the historian's own conceptual scheme. They are non-textual precisely because from a methodological point of view they are surrogates for textual evidence

that is necessary but not yielded by either the primary sources or their context. They are ahistorical insofar as they are supposed to be common to two or more different historical contexts, our own and that of the texts we study. Finally, it is crucial to bear in mind that any given non-textual standard is heuristic and therefore always subject to critique and potential rejection.⁴⁰

⁴⁰ We would like to thank the general editor of the journal as well as the two anonymous referees for their insightful comments. The research published herein was made possible by the generosity of the Academy of Finland and the European Research Foundation (grant agreement 682779).