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Origins of Objectivity is Tyler Burge's outstanding, long-awaited first monograph. It makes a major contribution in philosophy of perception and theory of reference and it will – no doubt – be the focus of much debate in the years to come. It is a wealth of philosophically engaging discussions as well as of empirical information ranging from the details of the theory of vision, to developmental psychology, ethology and biology. It is difficult to do it justice in the space allotted. So I will start by summarizing its structure, basic methodological assumptions and content and I will then close by offering a critical assessment of some topics.

The book is divided into three sections. The first one contains three chapters and lays down many of the terminological and conceptual distinctions which will be put to use in the remainder of the book. The second one consists of four chapters that analyze the various theories about perception that have been proposed since the beginning of the 20th century. The third and last part of the book contains four chapters and develops Burge's positive view. Furthermore, it explores the relation between the objectivity afforded in perception with the one arising at a conceptual level and points out its relevance for an account of the epistemic status of perception and of beliefs based on it.

[1] I would like to thank especially Paolo Leonardi for organizing a series of reading-seminars on Burge's book at COGITO Research Centre in the Spring 2011, and for helpful private discussions. I should also like to thank all people in attendance at those seminars, in particular Sebastiano Moruzzi as well the audience at the Workshop on perception and moral perception, held at COGITO in March 2012. Special tanks are due to Bob Schwartz, Clotilde Calabi, Wolfgang Huemer and Robert Audi for stimulating discussion and to Manuel Garcia-Carpintero, Mikkel Gerken and Giorgio Volpe for very useful correspondence on a previous draft of this review.

Aims and methodological assumptions

Burge aims to answer *constitutive* questions about the origins of objective representation of the world around a perceiver. However, although the central claims are, for Burge, a priori warranted, he isn't engaged merely in conceptual investigations. Rather, he "attempts to understand the deepest, most necessary, facts about kinds, or 'cuts' in the world, that can ground explanation" (xvi). To put it differently: the aim is to identify the conditions which make something what it is and therefore afford an explanation of its nature, or equivalently, of its essence (5, 57-59, 62-67, 534-7). Constitutive questions about objective representations of the physical world around the perceiver concern what it takes for a subject or an organism to "engage in accurate, empirical representation of an ordinary macro-physical subject matter" (59) so that some of its central physical attributes are accurately indicated and attributed "in such a way as to entail (their) physicality" (*ibid.*).

In order to answer constitutive questions about when objectivity starts, two main methodological assumptions are made. The first one is a firmly anti-individualist conception of the mind. The second one consists in deploying an empirically informed methodology. Accordingly, Burge rejects reductionism and looks at the best and most mature science concerning particularly perception to see, first, what conceptual categories it makes use of, and, secondly, what kind of data it provides us with regarding the issue of when, at the ontogenetic and phylogenetic level, objective representation starts.

The upshot is that, according to Burge, representation is an irreducible and non eliminable *mental* kind, characterized by having veridicality conditions (9). That is to say, representations, by their very nature, have conditions for being correct or incorrect. Therefore, they are neither reducible to other mental states which lack veridicality conditions, such as sensory states (*ibid.*); nor are they eliminable in favor of non psychological states such as merely causally reliable or information theoretic processing, or even teleological covariation (*ibid.*). Hence, representation is a psychologically robust kind, which, moreover, is routinely used in scientific explanations (292-308). Such a psychological kind is instantiated in perception, thought and language. However, according to Burge, it is in perception that it makes its first appearance, as a close examination of perceptual psychology reveals. Furthermore, perceptual psychology

makes clear that perception is common to human adults, human infants and to a large number of creatures in the animal kingdom.

The reason why perception is so widespread, says Burge, is that it doesn't require a representation by the individual of the conditions which make it possible for it to have perceptual representations (11). Much of the positive part of the book is devoted to an understanding of the conditions an organism must meet in order to enjoy perceptual states. We will come back to them shortly. But it is important to stress from the start that – in keeping with Burge's anti-individualist standpoint – they constitutively involve patterns of causal relations with the environment around a perceiver, which help determine the specific natures of these perceptual states. Such causal relations, however, are not themselves representational (61-2).

Another important aspect of Burge's anti-individualism consists in holding that it is a priori true that having any representational state requires bearing "certain 'associational' relations to some *veridical* representational states" (68). Yet, according to Burge, representations aren't object-dependent or, more generally, referent-dependent. Hence, contrary to what disjunctivists about perception hold, there can be perceptual states that "represent there being a particular, or (…) as of a specific attribute" (45, 362 fn. 97, 391-2), although there is none. Such representations aren't veridical, but they are representations all the same and, moreover, are constitutively dependent on the fact that subjects are (or have been) in causal connection with some aspects of the physical environment around them.

Furthermore, anti-individualism helps explain why representational mental states have veridicality conditions that are non accidentally fulfilled by elements in the environment (80) and, connectedly, why they can sometimes be erroneous. It also helps account for the fact that mental states such as perception have a "committal nature" (81). That is to say, they "undergo a kind of failure if they are not, or are not made, veridical" (*ibid*.).

What is more, Burge claims that "the science of perceptual psychology presupposes anti-individualism about perception" and hence it "makes anti-individualism about perception empirically specific" (87). For perceptual psychology contributes law-like generalizations that explain "the processes by which perceptual states with specific veridicality conditions are formed from specific types of proximal stimulations" (88), as well as cases of perceptual illusion. The difference between veridical and illusory perception "often depends on

differences in the actual, occurrent distal antecedents of a given type of proximal stimulation" (89). Hence, causal relations between perceptual states and their *representata* are presupposed by scientific explanation.

Moreover, the central problem of perceptual psychology – the so-called "underdetermination problem" according to which the same proximal stimulations are compatible with several different physical causes – is solved when the principles that govern the formation by perceptual systems of *veridical* perceptual states are discovered (94). Veridical perceptual states, in their turn, are individuated by their relations to environmental entities (96-8). So, the solution of the central problem of perceptual psychology presupposes anti-individualism.

Furthermore, the laws that govern perceptual systems are never "attributable as acts to the perceiver" (94), not even implicitly (97, 405). They are computational formation principles, "inaccessible to consciousness and not under the perceiver's control" (94). They operate at the subpersonal level, although their results are constitutively attributable to the whole perceiver (369-76, 547-51), despite not being necessarily conscious. So, once more, perceptual psychology is anti-individualist, insofar as it doesn't require a subject to be able to represent the conditions which make perception possible.

Finally, perceptual systems are domain specific, (partially) encapsulated from other cognitive systems, although they can interact with other systems, and are shared across a wide number of species. All these aspects further support the view that perceptual psychology is deeply committed to anti-individualism.

The objectivity of perceptual representation

The crucial issue addressed by Burge is what it means to say that perception affords an objective representation. "Objective" as used here connotes being a product of objectification, which "is formation of a state with a representational content that is *as of* a subject matter beyond idiosyncratic, proximal, or subjective features of the individual" (397), comprising entities in one's physical environment, and also one's own body (399).

According to Burge, in order to perform objectification the system must discriminate one shape from the other, but also shapes from

other relevant elements which are environmentally salient and could have an impact on the needs and activities of the perceiver. Similarly for the perception of bodies, which must be discriminated from events, properties, etc. Perception is still objective even if the perceptual system is incapable of discriminating these elements from illusions, proximal stimulations, abstract kinds, undetached entity parts, etc. For the latter don't figure as relevant alternatives in a causal account of the formation of the perceptual states, or figure in natural biological explanations of functional individual needs and activities. Hence, "the perceiver's objectifying discriminatory abilities determine the nature and content of his perceptual abilities only within this larger environmental and ethological framework" (407, 466).

Another fundamental facet of objectification, according to Burge, consists in the exercise of perceptual constancies, which allow, for instance, to perceive a color as the same even if it is presented in different ways, like in the case of a white wall which is perceived as having the same color although it is unevenly illuminated. According to Burge "constancies are the perceptual analog of Fregean informative identities" (411) and are interestingly said to be "necessary and sufficient for the system's being a perceptual system" (413).

Burge discusses numerous examples of perceptual constancies in vision, touch and hearing. Smell and taste, by contrast, are said to exhibit no constancies. For such a reason, they are considered non-perceptual sensory systems (415). There are empirical reasons for this, according to him: chemical blends that impinge on the olfactory system are amorphous, so, apparently, not stable enough to give rise to objectification. With taste, "the relevant mixes are proximal ones, in the mouth" (*ibid*.). Hence, once more, objectification isn't achieved by the operations of the sensory system. If it is achieved at all, it is due to the operation of our conceptual capacities (416), Burge claims.

Finally, according to him, there are natural norms governing perception – viz. veridicality, accuracy and reliability. These norms are constitutively associated with the nature and basic function of perceptual representations. Hence, they are a priori knowable, by knowing what perception is. They aren't merely descriptive, for Burge (314), for they determine "an adequacy [condition] in fulfilling a function"; so a "generic notion of 'should' applies" to perceptual representations. One of their main features is that they need not be represented

or in any way appreciated by the individual. However, when they are satisfied, an individual acquires an "entitlement" – viz. a non-propositional warrant – for a corresponding belief, if he is capable of forming one (312, 317, 435).

Perceptual contents and propositional thought

Perceptions have representational contents. The latter are abstract kinds that fix conditions under which a psychological state is veridical. All perceptual representational contents are structured, i.e. they have singular and general elements. The latter perceptually indicate certain types or attributes – roundness, to the right of, etc. – and attribute them to particulars. Burge calls them "perceptual attributives" (380). Perception, however, singles out also particulars: not only bodies or events, but also specific, contextually determined, instances of properties and relations. These singular elements are labeled "singular perceptual applications". Both perceptual attributives and singular perceptual applications are semantically relevant: the former can rightly or wrongly indicate types or attributes, or rightly or wrongly attribute them to particulars; the latter, in contrast, could fail to refer.

A close examination of perceptual psychology supports the view that the elements of perceptual contents aren't objects and properties but perceptual modes of presentation of them (385-96). Specific objects and properties are relevant only in order to determine whether a given perceptual representational state is veridical.

According to Burge there is a structural difference between perceptual and propositional content. The former necessarily involves singular, context-determined, elements, which are categorized or grouped from a contextually-bound perspective. Objectivity and singular reference are therefore already present in perception. What is not present yet, however, is the separation of attributions from singular reference, to arrive at propositional predication (539). "A capacity for such a separation is a central aspect of achieving the specific context independence and generality that are embodied in pure attribution, propositional thought and rational inference" (*ibid.*, 541). Moreover, the content of perception is similar to a map or a sketch from an egocentric perspective. This is not the form of a proposition. In addition, while the transformations of perceptual

states don't depend on the individual, the transformations among propositions, for instance in inference, are normally acts by the individual. Furthermore, there is no perception of logical constants, while propositional contents involve logical operations.

Finally, perceptual attributives are limited; they concern shape, spatial relations, color, motion, texture, possibly danger, food, conspecifics, etc. Burge calls these attributives "perceptually basic" (546). Perceptual beliefs containing only conceptualizations of perceptually basic attributives are called "basic perceptual beliefs" (*ibid*.). Many of our perceptual beliefs employ concepts which go beyond the range of perceptually basic ones, e.g. baseball bats, CD-players, etc. However, according to Burge, "in any particular application (…) the broader type of perceptual beliefs ultimately relies on conceptualizations of basic perceptual attributives" (546). In propositional thought about perceived particulars, the singular elements are inherited from perception and embedded in an inferential structure, which may involve also quantificational elements, although it need not do so.

Origins of some representational categories: body, mathematical, spatial and temporal categories

A compelling criticism of Elisabeth Spelke's claim that bodies aren't represented as such in perception allows Burge to maintain the opposite. Moreover, he convincingly argues that cohesion, solidity, boundedness, and spatio-temporal continuity are properties which can be represented as such in perception.

According to Burge, the ability to discriminate three-dimensional figures from a background, and of representing them as cohesive and bounded, together with the ability to track objects perceptually over time (although not necessarily in motion or behind occlusions) are "a priori constitutively necessary to visually representing bodies as such" (456, 458-9). By contrast, he thinks that perceptual attributions of solidity aren't necessary to that end, even if they are sufficient for it. Notice, moreover, that, according to Burge, the ability to perceive bodies isn't necessary for objective perceptual representation, although it is central to the development of our conceptual system.

Turning to the perception of mathematical properties, Burge discusses recent experiments in this area. He doesn't contest the fact that they "have shown that (…) animals and infants are *sensitive* to

mathematical attributes – number, magnitude, proportion" (471). However, he contends that this doesn't show that subjects enjoy perceptual representational states with numerical content. In particular, the widely present ability to estimate the numerosity of aggregates is an exemplification of Weber's Law, according to which, "the discriminability of two magnitudes is a strict function of their ratio" (473). So, for instance, infants around 6-7 months can discriminate the ratio 2/1 in aggregate sizes of 16/8, 4/2, etc. But this seems to be an entirely estimative or approximative capacity, which shows no one-one matching between members of different aggregates. "The fact that the capacity is sensitive to, correlates with, certain aspects of the natural number structure and the fact that the natural numbers can be approximately mapped onto the representational structure exhibited by the capacity do not show that the capacity represents the natural numbers as such, or even takes natural numbers as *representata* at all" (480), not even implicitly. Rather, according to Burge, subjects represent pure magnitudes as such and their ratios, and make quantitative transformations among *analog* representations.

Similar considerations apply to so-called "subitazing", viz. the ability to determine, track and possibly, in adults, enumerate, 3 or 4 bodies or dots at a glance. Again, the bottom line is that this ability doesn't depend on numerical perceptual representations. Rather, it "appears best accounted for in terms of tracking individuals and their differences, or some other simple, bounded matching process. There need be no representational content that refers to numbers, like the contents 1, 2, or 3" (485-6, figures are underlined by Burge in order to indicate that they would be contents of mental representations).

Finally, spatial and temporal representations are discussed. According to Burge, although spatial representation is very widespread in the animal kingdom, it is not constitutively necessary for perceptual representation. That is to say a perceptual system could represent the "occurrence of an attribute in space" without being able "to represent spatial relations" (497). Nevertheless, spatial perceptual representations, as well as representations (as) of bodies are necessary for higher levels of objectivity.

Burge discusses a number of cases in which it is an open issue whether there is spatial perceptual representation, such as navigation by beaconing, by path integration, by landmark use and, lastly, by means of a map-like system. All of them are said not to require the perceptual representation of spatial relations, although they depend

on elaborating and using information coming from spatially arranged elements.

Regarding temporal representations, Burge notices that there are three forms of temporal sensitivity in the animal kingdom: a sense for temporal order, a sense for phases within cycles and, finally, sensitivity to intervals. However, according to him, none of these kinds of sensitivity requires a corresponding representation. In contrast, if and only if they play a role in perception or in representational agency, i.e. agency guided by perceptual representation of its goals, they become represented. It is then Burge's final contention that all perception – whether or not is (as) of bodies – is a priori constitutively associated with temporal representation, whereas it is not constitutively linked to spatial representation.

The critique of previous accounts of the origins of objectivity

If this is approximately the right picture of perception, then it is no surprise that all philosophical theories regarding the origins of objectivity that have been proposed during the last century or so are deemed erroneous.[2] Early analytic philosophers who embraced sense-data theories are criticized because they "systematically conflate(d) objects of reference and ways that those objects are referred to or represented" (120). Rather, objects of perception are, when the latter is veridical, elements of physical reality, not mental entities.

Peter Strawson and Gareth Evans, in contrast, are criticized for requiring abilities that aren't really necessary for perception, like representing a comprehensive, objective spatial framework; representing a contrast between the objective and the subjective – a seems/is distinction –; tracking oneself and one's point of view through space; having self-consciousness; the ability to represent criteria for the application of the representation, or for the identification and re-identification of the entity represented; and, lastly, the ability to represent causal relations and force.

Quine's account of perception is attacked on the grounds that it presupposes mastery of language in order to achieve singular refer-

[2] But notice that the discussion of previous accounts of perception comes before the presentation of Burge's positive proposal.

ence starting from an unstructured level of representation of reality; in order to provide criteria of identity to single out entities; and to supply the quantificational apparatus which is allegedly needed to achieve singular reference. It is further criticized for according preeminence to proximal stimulations, and for presupposing the ability to generalize the attributions of properties singled out in a specific perceptual episode.

Finally, Davidson's account is criticized for holding on to a misleading dichotomy: that between mere sensory discrimination without any genuine representation and propositional thought about one's environment, which would in turn require beliefs about one's perceptual beliefs, language and even communication among individuals.

An assessment

Burge's book is an invaluable contribution. In particular, I do think that it draws the crucial distinction between perceptual representations and sensory ones in an extremely clear and thoroughly convincing way. My partial reservations, on which I will concentrate in the following, should be read against the background of this judgment and as minor criticisms, which I think leave intact the substance of Burge's main claims.

Let me start with some stylistic observations. I think the book would have been outstanding if the reader had been spared an excessive number of repetitions, essentially due to the way the volume has been structured. There was no real need to introduce at great length some terminology and methodological issues in the first part of the book, in order to repeat them in the third one; or to fragment the discussion of the same topic in a number of places (chapter 8 is an example of that). It would have been better to deal with each topic just once and in its entirety. This would have also increased the eventual clarity and effectiveness of Burge's proposal.

Another aspect of the book which is wanting is the fact that there is very little engagement with the work of other living philosophers who have dealt with similar topics. For instance, the idea that perception isn't conceptual has been widely debated in philosophy in the last thirty years or so. There is no discussion of even the most representative views advanced so far. Some reference is made only in a footnote (538-9, fn 6) to Peacocke's work on nonconceptual perceptual con-

tent. Another example is the criticism of Spelke's claim that perception of objects requires some conceptual equipment, which has been present in the literature at least since Bermudez' work in the 1990's. There is, in contrast, a discussion of an overwhelming number of empirical cases, concerning all sorts of living creatures, some of which are, arguably, of modest philosophical significance and could have been put in an Appendix.

A section which is far too long and also misleading at places is the second part of the book, where Burge discusses the views of other 20th century philosophers regarding the origins of objectivity. Again, it would have benefited from a curbing and could have been placed in an Appendix. Let us consider just one example to see how contentious this historical section may be. Burge attributes to Evans the view that linguistic reference is prior to other forms of reference (183-4, 191), while it is well-known that he held the view that in order to understand linguistic singular reference one needs to clarify the structure of demonstrative and indexical reference in *thought*. Another deceptive rendition of Evans' ideas occurs when his views about singular *thought* (and his attack on the so-called "Photograph model" of thought) are criticized for not being an adequate account of the conditions *perception* of particulars should meet. Burge's criticism seems to conflate these two levels and to be based on taking Evans' remarks about the former to carry over to the latter (184-7, 198-208). However, Evans' views were intended to apply merely to singular thought. Another extremely contentious interpretation crops up when Evans' defense of Russell's principle is criticized for requiring too complex cognitive abilities (172-176, 181, 192 fn. 103). The criticism misses the point insofar as it doesn't adequately deal with the fact that merely perceptual discriminatory abilities aren't sufficient, for Evans, for proper reference in *thought*, while they are trivially enough for mere perceptual discrimination of particulars. This connects with Burge's criticism of Evans' Generality Constraint: singular *concepts* need to meet it, according to Evans, but this is not to say that perception of particulars isn't possible if that constraint isn't met. Again, Burge's criticism seems to be based on taking Evans to be stating a requirement upon the perception of particulars, instead of one on thought about them. Finally, when Burge attacks Evans' views about singular thought for requiring more than mere perceptual discrimination of particulars, the alternative proposal isn't clear at all. For it amounts to the idea that a perceptual mode of presentation

should, as such, be utilized within propositional structures and patterns of propositional inference (169-70, 179, 197-9). But it is far from obvious that such a mode of presentation, which, for Burge, isn't propositional, and is something like a map of the perceptual scene as given to the subject, could figure *per se* in a proposition, which, in its turn, could enter propositional inferences. Perhaps Evans was wrong to impose the constraints he identified for singular thought, but Burge's alternative picture seems too sketchy to vindicate the view that simply perceptual discriminatory abilities are enough to enable singular, propositional *thought*. Indeed the parts of Burge's book which deal with the upper bound of perceptual reference (539-546), viz. thought about particulars perceived, are amongst the least developed ones, and occasionally postpone relevant discussions to future work. This is, in contrast, one topic which should have been dealt with in this book, insofar as Burge's main contention is that *objective reference* starts in perception. For many, while perception may be of objects and as of objects (or other attributives) unaided by concepts, reference properly so-regarded would start in thought, when subjects are able to entertain propositions and make inferences among propositional contents. This, in turn, would require further abilities besides the ones mobilized in perception, especially if, as Burge himself holds, thought is conceived as constitutively detachable from contextual restrictions and connected to general inferential abilities.

But let us now turn to some aspects of Burge's positive proposal. Let me repeat that his way of drawing the distinction between perceptual states and other sensory states with no correctness conditions is clear and illuminating. Methodologically, however, it is supported not just by a priori considerations but also – I would say, mostly – by an analysis of scientific data. Now, Burge is the first one to notice that scientists often use the term "representation" for states which *don't* have veridicality conditions and that, quite often, even when they are trafficking in psychological states which, according to Burge, do have them, they don't recognize it. So, in effect, Burge is offering a *rational reconstruction* of scientific practice. The suspicion, however, remains that his way of drawing the distinction between perceptual states and other, allegedly non-representational ones, no matter how philosophically illuminating it may be, might not be underwritten – or underwritten *in toto* – by science itself. (To my mind this wouldn't diminish its interest, but Burge may dissent).

Another minor perplexity regarding Burge's methodology *vis-à-vis* scientific findings is that he bases most of his considerations on an analysis of data coming from visual psychology. The propounded view that taste and smell aren't perceptual, but merely sensory systems, appears comparatively less empirically substantiated. Obviously this thesis is going to be hostage to further empirical findings. Let me register, however, that it has some surprising consequences. For instance, that any time there are taste and smell constancies they aren't actually supplied by the relevant sensory system, but by the exercise of concepts. This would presumably deprive a-conceptual creatures of the possibility of tasting the same taste, say, when it is presented differently in the various areas of the mouth. This isn't obvious, though. Equally surprising is the consequence that salmons' navigation by beaconing, which is based on registering and following olfactory traces, wouldn't be perceptual, because there is no objective representation of its direction, let alone of its final destination. Rather, it would be based on merely following one's proximal olfactory stimuli, in which no exercise of perceptual constancies is deployed, according to Burge. But, again, this seems odd and could be empirically disconfirmed. After all, salmons seem to move back to where the same olfactory trace is more strongly registered and this seems to entail the exercise of something like a perceptual constancy: despite differences in proximal stimuli, the smell seems to be taken to be the same and "re-traced" on the basis of that representation, or so one might surmise. Let me stress that none of this ultimately speaks against Burge's general account of perception, although it shows that some of his more specific claims might in the end be empirically disconfirmed.

As noted before, Burge doesn't provide an account of the conditions which must be fulfilled to go from a perceptual representation to the corresponding representation in thought. In this connection, one further potential problem stems from the fact that for him the range of perceptually basic attributives is very limited. Therefore, anything which goes beyond them is due, according to Burge, to the exercise of concepts. First, it isn't clear whether the exercise of these concepts would take place in perception, so that most of adult human beings' perceptions would then turn out to be conceptual after all; or else in judgment. I was unable to find decisive evidence in favor of

either claim.[3] Be that as it may, one might think that several creatures, to whom we may not want to attribute the possession of concepts, could have finer-grained perceptions than the ones immediately licensed by the perceptual attributives countenanced by Burge, which are operative in shaping their fine-grained discriminative behavior. So, it seems that either the range of perceptual attributives is actually finer-grained than Burge makes it seem, or else, that we should attribute more concepts to creatures than we might, at least prima facie, feel disposed to. Either way, Burge's position would call for some refinement or clarification.

This issue connects with Burge's epistemological preferred view. As is well-known, he thinks that there are perceptual entitlements, i.e. externalist, non-propositional warrants that subjects need not be able to articulate, but that they possess when their beliefs are appropriately based on their perceptions. Now, it isn't clear whether only beliefs that perfectly match the corresponding perceptual contents would be so warranted; or else whether also the ones which are compatible with those contents are.[4] If the former, then we would have entitlements only for very generic beliefs, such as "Here is an orange round object". Entitlements, however, seemed to promise the possibility of saying that children, who may be unable to articulate their reasons, could nevertheless have a lot of warranted beliefs, much more than the very generic ones which would wholly match the content of their perceptions. If the latter, in contrast, we may be entitled to hold too many, often mutually incompatible beliefs at once. For "Here is an orange", "Here is an orange ball" or "Here's a round and orange candle", would all seem to be equally compatible with the perceptual content specifiable as round-orange-small-sized-object.

Again, a problematic aspect of Burge's position with respect to perception, when taken in connection with epistemology, is that he doesn't require perception to be conscious. So it appears that blindsight, for instance, would be a case of perception. Since, apparently, it is reliable, one may well conclude that subjects who form beliefs on its basis are justified to do so, even if obviously unable to

[3] In "Perceptual entitlement" (*Philosophy and Phenomenological Research* 67/3, pp. 503-548) Burge seems to favor the former option (cf. p. 546).

[4] In "Perceptual entitlement", op. cit., Burge seems to favor the latter option.

articulate their warrant, of which they are also totally unaware. But this is difficult to swallow. For the belief that, say, there is a ball on their left, seems to be a lucky shot in the dark, from their own point of view. So, although one may be hospitable to the idea that not all justifications need be propositional and articulable by subjects who have them, one may at least require that justifications, even in the form of entitlements, should depend on subjects' conscious mental states.

Finally, let me turn to Burge's claim that there are natural norms – that pertain to the essence of the entities at issue – about representation and perception that can be known a priori, such as the fact that (perceptual) representations are veridical (let alone accurate and reliable). Furthermore, that it is knowable a priori that in order to have certain contents representations require being, or having been (perhaps only phylogenetically) in appropriate relational states with what would make those contents correct.

I must confess, first, that I am not persuaded that these allegedly natural norms would be knowable a priori, i.e. either by reflection on the notion of representation or of perceptual representation. It seems plausible that representations in general just present a possible layout of objects, properties or states of affairs, in whatever modality they specifically do that (either in perception, or in thought or even in imagination, just to stick to mental representations). So it seems reasonable to hold that there is nothing in the very concept of representation that suggests its being a norm that representations should be veridical. Secondly, it isn't obvious to me that, in order to have a representation with a specific representational content, one must be (or have been, perhaps only phylogenetically) in appropriate causal relations with what would make that content correct. This form of anti-individualism about content doesn't seem to me to be underwritten just by reflection on the notion of representational content (not even of perceptual representational content, given that, as Burge himself acknowledges, there may be perceptual representations with the same content even when they aren't produced by a distal cause), while I remain hospitable to more local forms of anti-individualism about, for instance, natural kinds' thought.

From this different point of view, the norm of veridicality in the perceptual domain would seem to depend on having found out *empirically* the standard way in which most organisms with similar sensory systems, in approximately the same conditions, would represent the environment

as being. Such an empirically determined standard would then help adjudicate which representations are correct and which aren't. This is fine as far as it goes, but – to stress – it doesn't seem to be knowable by means of a priori reflection, let alone by reflection on the very concept of representation.

Of course one might say I have been unfair to Burge because the natural norms he is concerned with are, first and foremost, those regarding *perceptual* representations. One might then stress that since perceptual verbs are factive, the key norm of perception is to represent correctly. Obviously, down this route, at least that norm could be known a priori, by reflection on our own concept of perceptual representation. However, I think that in such a case we could hardly take ourselves to have disclosed the very essence of perception as opposed to the way in which we tend to *think* about it, or *represent* it as being.

Despite these criticisms, however, I think that *Origins of Objectivity* is a rich and fundamental book. It is also an example of a really interdisciplinary approach to perception and reference. It is therefore a *must* both for philosophers and psychologists interested in these topics. It remains that some important issues with respect to its overall methodology, perception's lower and upper bound, the relationship between perceptions and concepts and perception's epistemic role still need to be thoroughly clarified. No doubt, Burge's future writings will fill in these lacunae.[5]

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[5] Burge's *Jean Nicod Lectures* delivered in 2010 go in this direction, especially as far as perception's upper bound and its epistemic role are concerned.