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Tyler Burge, *Origins of Objectivity*, Oxford University Press, Oxford, 2010, 656 pp.

Tyler Burge's *Origins of Objectivity* is a massive tour de force. It is a book primarily about perception, but it is also about the notion of representation, about the project of naturalizing intentionality, about mental content, about animal cognitive abilities, about the implication of language in psychological representation, about Kantianism, about agency, and about the conceptual status of some basic representations. The book is original both in content and in method, as it merges analytic topics and methodology with a radical naturalistic philosophy. In fact, this book is a bit too impressive.

There are all sorts of reasons to think that Burge's book will be one of the most influential books of the early twenty-first century. The topic of representation is one of the main concerns of contemporary philosophy. Burge contributes to the clarification of many issues that have been in need of such treatment for a long time now, and the many issues dealt with are deep and interesting. We find, however, one sole general problem: the book is excessively demanding. The writing is not fluent, is repetitive and convoluted, and at times may even sound dismissive.

The book is divided in three substantial parts. The first draws the general picture and advances the main theses of the book, their antecedents and foundations. It also highlights the differences between Burge's approach and those that dominated the discussion of these issues during the twentieth century. The second examines two of these dominant approaches in detail, grouped together under the rubric of *Individual Representationalism* (IR). Part III is devoted to explaining and defending the theoretical framework the author proposes. In this review we will follow the same expository plan, presenting Burge's ideas in order and occasionally introducing brief comments. We leave our main criticisms for the end.

I

Burge begins by articulating the question that guides his exploration: "what are minimum constitutive conditions necessary for an individual to represent the physical environment in such a way as to attribute, sometimes accurately, specific physical attributes to physical particulars?" (p. 3) In brief: what are the minimal constitutive conditions of objective representation?

His endeavor is grounded on anti-individualism, perception psychology, and common sense. The picture that emerges from this preliminary discussion (pp. 9–24) is as follows. In representation, perception, and objectivity is where the mind begins. Representation is a distinctively psychological kind; objective representation is the basic sort of representation, and perception is the most primitive type, so that in perception there is reference to physical particulars of the environment. Besides its primitiveness, perception is also autonomous: it does not need to be supplemented by higher-order representational capacities of the individual, since objective representation depends on "conditions that the individual has no perspective on" (p. 24): subindividual conditions that are unconscious, automatic and relatively modular, as well as environmental conditions (mainly causal patterns). This explains that "perception is a very widespread [. . .] capacity, present in numerous animals other than human beings" (p. 10).

II

Burge's idea that perception is (i) a primitive form of representation, and (ii) autonomous, stands in opposition to two of the main lines of thought from the twentieth century. The first line of thought, which is more widely-discussed in the book, is IR, which questions either one or both of these two points. The second —which denies only the primitive character of perception— is that of reductive or *deflationary* analysis (discussed in part III). In general, IR is characterized as holding that subjects cannot have perceptual representations of the physical environment if they are unable to represent some *preconditions* which are constitutively required for such representations. Burge takes IR to exemplify a pernicious tendency in philosophy to hyper-intellectualized analysis.

IR is divided into two distinct families: according to the first, empirical representation is not representationally primitive, but requires that the subject represents another type of particulars —typically, sense data— which are explanatorily more basic. Burge merely describes different approaches within this family, as he judges the overall proposal to have been abandoned (chap. 4).

However, part II is mainly devoted to exposing and criticizing the leading figures within the other family of supporters of IR: Strawson, Evans, Quine and Davidson (chaps. 5–7). According to this second family, objective perceptual representation is not autonomous: both its possibility and intelligibility depend on the prior representation

by the subject of certain general conditions of objectivity. To get an idea of the variety of these requirements, Burge argues that Strawson claims that objective reference to bodies in space requires the subject to have criteria for identifying bodies, to have a conception of the spatial framework, and to exercise the seems/is distinction. In Quine and Davidson, objective representation requires that subjects possess criteria for re-identification, which in turn requires that they possess the quantificational apparatus of language.

It is worth noting that many of these demands arise, in good part, because the discussions of those authors were often placed in a context in which linguistic communication was a key concern, leading to a notion of representation with a strong linguistic bias (p. 147); and also because many of those authors were mainly interested in propositional attitudes, such as, for example, perceptual beliefs, and they paid little attention to perception itself (which, for Burge, is not propositional) (p. 148). This establishes a clear contrast of backgrounds, since the main target of Burge's book is perception and its constitutive conditions, and it has little to say about the transition to propositional attitudes (and does not address communication at all). We think that this difference of background concerns introduces a certain distortion in Burge's criticisms. For example, Burge notes in his discussion of Strawson that it is possible to differentiate two projects (pp. 156–157): (a) explaining minimal constitutive conditions for objective representation of the physical environment, and (b) explaining constitutive conditions for *having a conception* of mind-independent entities as mind-independent. The second assumes that one has a concept of mind. Burge says that Strawson sometimes conflates the two projects, and his followers are even more prone to do so, particularly Evans. Burge's warning is certainly interesting, and one of the fundamental merits of the book is that it very clearly separates the two types of issue. However, once the confusion of levels has been appropriately signaled, Burge's criticisms often do not seem to be sensitive to these differences in the motivation and ultimate goals of IRs. His critiques narrowly focus on evaluating their proposals in the light of question (a), ignoring thus the interrelations with the other issues that have concerned IRs, and their eventual insights on them. This somewhat diminishes the interest and scope of some specific criticisms (which crop up throughout chapters 6 and 7) and generates disproportionality between the exposition of these theories and their final rebuttal, namely, the claim that they rest on mistaken theories of perception.

Burge, however, concedes some points to IR (pp. 284–288). He thinks it is correct, for instance, in claiming that there is something in the individual's psychology that distinguishes representation of an objective subject matter from mere sensory responsiveness to distal causes, and that in order to represent bodies, an ability to distinguish them is necessary. However, he claims, "[IR] erred in requiring that the individual be able to represent these elements" (p. 288). According to Burge, for individuals to have representational states, it is not necessary, for example, that they themselves separate *seems* from *is*; it is enough if their subsystems are able to do so. In a nutshell, there are "less intellectualized analogs" (p. 287) of IR claims that are true.

III

In part III, Burge immerses himself in an impressive discussion about the notion of perceptual representation that touches on issues as diverse as: biological functions; the projects of naturalizing intentionality; agency; disjunctivism; and the nature of some core representations. All this discussion is at the service of his two main theses: (i) that representation is an irreducible natural kind, and (ii), that perceptual representation is a type of *objective sensory representation by the individual*. Burge deals with his first thesis in chapter 8, and develops his defence of his positive proposal in chapter 9. Chapter 10 is devoted to examining particular kinds of representational subject matters: physical bodies (objects), numerosity, space and time. Here Burge argues, *contra* Spelke and other developmental psychologists, that these fundamental representations are perceptual, rather than conceptual. A central issue in all these three chapters is the distinction between perceptual (representational) systems and merely sensory systems.

Chapter 8 contains a rebuttal of what Burge calls "deflationism". Supporters of IR wanted to draw a distinction between representational states/systems and purely sensory states/systems. According to Burge, they drew it in the wrong place. Deflationism is characterized by the blurring of that distinction. The deflationists Burge discusses are philosophers embarked on the naturalization project. Burge objects that such a project is misconceived: philosophers think that representation is mysterious and that we should explain it in terms of other, scientifically kosher, notions. Yet, he argues, there is no argument for representational states' being mysterious or unscientific at all: psychology makes abundant —and essential— use of the notion of representation.

Burge starts this part by focusing on teleological theories of intentionality (pp. 291–315). Here the goal of the argument is to establish that the representational function (i.e., the function of representing veridically) is not a biological function. Burge argues that biological functions are defined in terms of adaptability, in such a way that a failure in a biological function results in at least some decrease in adaptability. However, it is certainly possible for individuals to represent incorrectly and yet be perfectly adapted to their environments. Representational states have biological functions, as they trigger behaviour that is adaptive; but errors in representational states cannot be explained as failures to fulfil a biological function. According to Burge, this is a point where we can find a clear difference between sensory states and perceptual states: the former, but not the latter, are fully explainable in terms of causal covariation and biological function.

However, the real difference between representational and purely sensory systems lies in the fact that in perceptual —representational— systems there are *formation laws*, described by psychology, which extract, filter, and augment information from the proximal stimulus in order to reconstruct and identify distal causes (chaps. 8–9). Purely sensory systems stay at the level of proximal stimulation: some sensory systems are simple and reactive; others involve weighing and averaging different inputs, but computationally complex as they may be, they do not implement formation laws.

We mentioned above that one of the points where Burge thinks IR is right is the claim that the individual's psychology must be able to distinguish representation of an objective subject matter from sensory stimulation. According to Burge, that is precisely what distinguishes representation from sensory registration. The way the individual's psychology makes the distinction is by means of formation laws implemented in, but not represented by, the individual's subsystems. Formation laws have to resolve an *underdetermination* problem (p. 344): the information within the proximal stimulus is compatible with many different distal causes. The individual's subsystems must solve this underdetermination problem and identify one single distal cause as the cause of the proximal stimulus. In Burge's words: "[The underdetermination problem] is the problem of explaining how the system represents, often veridically, specific environmental conditions, given that its input only registers, functionally encodes, proximal stimulation that underdetermines such conditions" (p. 344). So, what formation laws allow perceptual systems to do is to extract from proximal stimulation those aspects that indicate the presence of

some environmental attributes (or particulars) and construct a representation of such environmental attributes or particulars (p. 400). This is unique to representational systems.

One remarkable aspect of perceptual systems is that they exhibit *perceptual constancies*. These constancies enable objectification, which depends on a capacity to present a given attribute (or particular) *as the same* attribute (or particular) under variations in the surrounding conditions and subsequently in the proximal stimulus. For instance, colour constancy involves a subject's continuing to see something as blue even if the intensity of the light changes.

So perceptual systems produce states (and contents) that are representational —in the sense highlighted by Burge— in that they have veridicality conditions, i.e., "conditions of accuracy in representing environmental conditions beyond the sensory registration of proximal stimulation" (p. 395). This is so because, on Burge's view, to have veridicality conditions is to exercise constancy capacities. According to Burge, the representational character of perceptual states also entails that they are perspectival: the subject matter is represented under a mode of presentation (which is derived from the sensory registration of proximal stimulation).

Burge argues (in opposition to most disjunctivist views) that it is essential to explanations in psychology that two occurrences of perceptual states can be marked or type-individuated by their content as instances of the same kind of perceptual state, even if one is veridical and the other is a referential illusion (or hallucination). The main reason is that such explanations should accord with what Burge calls the *Proximality Principle* (p. 386), presented as a taxonomic principle of psychology which requires that kinds of perceptual states formed in an individual depend on —among other conditions— types of registering of proximal stimulation.

However, a difficulty arises in combining the three functions assigned to representational contents whereby they: (i) are ways of presentation, (ii) help type-individuate psychological kinds, and (iii) constitute (or are) veridicality conditions (pp. 37–38, 379n.). The veridicality conditions of a veridical state referring to a particular object, and those of a (counterfactual) state resulting from a case of duplicate substitution (or hallucination) are clearly different. Hence the classification of those states by their veridicality conditions would result in different perceptual kinds, not the same. Burge tries to dissolve this tension by distinguishing between kinds of content: one for instances of representational states, the other for types of those

states; or alternatively (even if it is not clear that this is the same) distinguishing between ability-general elements, and context-bound (or occurrence-based) applications in the representational content of a perceptual state. Here we think that some further elucidation about the distinction would have been desirable (since many clarifications on the topic appear in footnotes or are referred to in other works).[1]

Burge's stated aim in this book is to discover the constitutive conditions of perception. According to him (chap. 9), the constitutive elements of perceptual states are three: causal connections to the environment which result in the formation of perceptual states; formation laws that allow the individual to discern distal causes from the proximal stimulation; and another set of causal connections with the environment, which connect perceptual states to adaptive behaviour. This last element seems essential in the determination of content. Burge argues that it is up to ethology and zoology to tell us what the individual's behaviour is directed towards, and so to determine what the contents of their perceptual states are.

IV

We tend to agree with Burge's main points. It does seem that there is a difference in kind between perceptual states and purely sensory states, grounded in perceptual states being the output of computations that work with the finality of "reaching" distal causes. Moreover, we think it does make sense to put the distinction in terms of representational *vs* non-representational states and to link representation to objectification, i.e., the ability to reach the mind-independent, physical world. It is customary in cognitive science to speak about representations in another sense, such that a system is considered representational if it carries out complex computations. The idea here is that computations require units that encode information and that it is right to call these units representations. Burge's point is that the information encoded by these units is not necessarily representational: it may be purely sensory information. We think this is a sensible point to make and that it will help to clarify some issues in the debate between anti-representationalism and representationalism.

However, we also think that some other points are less clear. For instance, we think that Burge fails to establish the claim that the

[1] We don't think the problem is resolved by Burge (even in other writings). We are here merely pointing out a problem, a tension, to the reader. Space limitations prevent us from addressing in depth many problems that arise.

notion of representation cannot be explained in terms of the notion of biological function. Let us consider Dretske's theory. According to Dretske (1988), representational states have the following origin: we have a structure *C* which becomes activated in the presence of *F*. At that stage, *C* merely carries the information of, or indicates, *F* —that is, it does not represent *F*. As it happens, *C* gets linked to some motor response *M*, say, to fleeing behaviour, which turns out to be adaptive. As a result of this, *C* is recruited by some mechanism of selection. The interesting thing is that the recruitment process generates a double functionality: *C* has the function of causing *M*, but it also acquires the function of indicating *F*. That is, there are two dispositions that are converted into functions at the same time: a forward-looking disposition (*C*'s causing *M*) and a backward-looking disposition (*C*'s being caused by *F*). Now, it is possible —as Burge remarks— for the first function to work well while the second one works badly and vice versa, and so it is possible that representational failures do not correlate with adaptive failures, and that, in effect, the representational function is not explainable in terms of adaptability. However, that does not mean that the backward-looking function is not biological.

Burge also claims that it is possible to draw a distinction between representational states and purely sensory systems precisely here: whereas sensory systems can be fully explained in terms of causal covariation and biological functions, representational systems have their own representational function. Yet, it seems that whatever is said about this representational function can likewise be applied to the indicative function. That is, if the representational function is not a biological function because it is not explainable in terms of adaptability, the indicative function is not biological either; the indicative function may malfunction while the forward-looking function is working perfectly well in terms of adaptability. Thus, there is no difference in this respect between purely sensory and perceptual states.

Another point that we found obscure was Burge's insistence on the role of ethology and zoology in the constitution of representational states. The idea here seems to be that, as ethology and zoology tell us what biological function representational states fulfil, ethological and zoological facts have a constitutive role to play in the determination of representational contents. Dealing with the famous case of the frog's representational contents, he argues that it is up to ethology to determine what the frog sees. In other places, he insists that the contents of perception can include attributes such as prey, danger,

edible thing, etc. However, he gives no example of formation laws whose output is, e.g., prey. This means that we have reason to suspect that there are no perceptual systems that represent prey as such. In general, it is difficult to see what role ethology and zoology have, apart from the epistemic role of providing some hints about what formation laws a certain species may implement (roughly, the ones necessary to cope with environmental demands).

There are many issues in Burge's book, and it is impossible to talk about them all in this review. One of the things we have no space to comment on is his claim that the representations of objects and of numerosity are not conceptual but perceptual. Spelke, Carey and other developmental psychologists have recently retreated somewhat from their former claims that core systems involve full-blown concepts and beliefs (see Carey 2009). It is tempting to think that there is some kind of progression (or regression) towards Burge's view here. We see reasons to resist Burge's claim, linked to the multi-modality of core representations and their availability for later inferential tasks, but we think that Burge's discussion is going to be very helpful in shaping the arguments and explaining what kind of systems core systems are.[2] Another important issue we can only just mention is the distinction Burge draws between perceptual and conceptual representations (chap. 11). According to him, it is constitutive of concepts that they can enter into propositions, and it is constitutive of propositions that they can have a predicative structure and enter into inferences based upon their form. There is attribution (categorization) in perception, but pure attribution (predication) only takes place in conceptual thinking. This is an interesting way of drawing the boundary between the conceptual and the non-conceptual which deserves discussion, and it would have been good if Burge himself had dwelled more on it, as it seems to question some of the assumptions of the psychology of concepts (for instance, it may be questionable that exemplar-based categorization meets Burge's criterion on conceptuality). Compared to the rest of the book, this last chapter is a bit too sketchy. In particular, it is considerably more aprioristic and less informed by empirical developments. We hope that Burge's future work will develop the insights advanced here and discuss them against the background of psychological theories of concepts (thus helping to bridge the apparent gap between philosophical and psychological theories of concepts Machery, 2009, talks about).

[2] On this, see Burge's BBS (Burge 2011) commentary of Carey's (2009) and her reply.

Burge has written a wonderful book and offers a deeply inspiring and impressive exercise in analytic-cum-naturalistic philosophy. We hope that this work has a profound influence upon the way philosophy is done and that Burge's penetrating and protean discussions receive due attention. This book has the potential to become a classic in the decades to come.[3]

REFERENCES

Burge, T., 2011, "Border Crossings: Perceptual and Post-Perceptual Object Representation", *Behavioral and Brain Sciences*, vol. 34, pp. 124–125.

———, 2010, *Origins of Objectivity*. Oxford University Press, Oxford.

Carey, S., 2009, *The Origin of Concepts*, Oxford University Press, Oxford.

Dretske, F., 1988, *Explaining Behaviour: Reasons in a World of Causes*, MIT Press, Cambridge, Mass.

Machery, E., 2009, *Doing without Concepts*, Oxford University Press, Oxford.

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