

con los de “margen de error” propuestos por Williamson; Predelli y Stojanovich examinan las consecuencias del relativismo semántico en la lógica de lenguajes intensionales con expresiones deícticas. En la segunda sección, Wright examina algunos problemas típicos del relativismo a la luz de las nuevas propuestas semánticas haciendo hincapié en el problema de la representación y cuestionando hasta qué punto ciertos “datos lingüísticos” pueden establecer la tesis de la relatividad de la verdad. Einheuser, por su parte, elabora una semántica relativista en la que las perspectivas son constituyentes de los mundos posibles. En la tercera sección, Moruzzi cuestiona la coherencia de las semánticas relativistas; Rosenkranz ofrece poderosos argumentos contra la posible existencia de “faultless disagreements”; y Dietz plantea una seria objeción a la plausibilidad de semánticas relativistas para oraciones sobre modalidades epistémicas. Finalmente, en la cuarta sección, Cappelen argumenta que un defensor del “relativismo de contenido pluralista” —según el cual: (i) al proferir ‘*p*’ expresamos muchas proposiciones distintas y (ii) lo que expresa una proferencia de ‘*p*’ varía en distintos contextos de interpretación— puede dar cuenta de los mismos datos lingüísticos que el relativista prescindiendo de semánticas relativistas; Iacona y López de Sa, por último, defienden semánticas contextualistas: el segundo intenta compatibilizar estas semánticas con la existencia de “faultless disagreements” apelando a los presupuestos compartidos que rigen ciertas conversaciones; Iacona niega directamente la existencia de “faultless disagreements”.

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STATHIS PSILLOS, *Knowing the Structure of Nature. Essays on Realism and Explanation*. Houndmills: Palgrave Macmillan, 2009.

The realism/anti-realism debate is concomitant to the history of Western scientific thought. It began, according to some interpretations, with Plato’s alleged enunciation of the *problem of the planets*, and it has been present in philosophy for almost 2400 years. Psillos’s book, as might have been expected given his previous realist affiliations, speaks in defence of scientific realism. One of the most interesting aspects of the book is how Psillos tackles not only instrumentalism — including its most modern versions such that of Stanford — as well as Laudan’s pessimistic induction and Van Fraassen’s constructive empiricism, but also how he tackles the various versions of realism, such as Cartwright’s entity realism and Worrall’s and his followers’ structural realism, among others.

In *Knowing the Structure of Nature*, Psillos outlines his own version of scientific realism by arguing against any differing positions, be they close to his own or clearly opposed to it. The book thus offers a critical dialogue with many contemporary philosophers and viewpoints. The book’s strategy consists in the presentation, chapter by chapter, of these viewpoints, in order to enable the author to draw conclusions which contribute to the defence of his own philosophical position. The result is an enthusiastic and optimistic philosophical product in defence of scientific realism. But the reader will also hold a strictly academic book, completely up-to-date and very useful for ac-

quiring a feel for the current philosophical debate. As the author shows a practically exhaustive knowledge of the debate on contemporary scientific realism, the book has the extraordinary advantage of serving for the purpose of learning a great deal about the philosophy of science as it stands today. Thus it is strange that in the discussions on contemporary structuralism, Sneed's, Stegmüller's, and Moulines's structuralist views of theories are conspicuous by their absence. Of course this is not strictly Psillos's fault, as structural realists have neglected from the very beginning Sneed's fertile contribution to philosophical structuralism.

This book represents a considerable effort to defend standard scientific realism from both its internal and external adversaries. If the reader was already a realist before opening the book, s/he will continue to be a realist after reading it. If not, given that the epistemological positions in today's philosophy of science are very entrenched, s/he will probably not alter his/her opinion. Although this doesn't lessen the book's didactical and philosophical value, an open-minded reader might nonetheless be annoyed by the absence of practical examples from the history of science and contemporary science — examples which would better justify the book's philosophical speculations. This is one aspect of the book which Psillos could have attended to rather better.

As Psillos himself states in his Preface, *Knowing the Structure of Nature* is a collection of previously published essays on scientific realism to which the author has successfully given unity and cohesion. The book is divided into three parts. The first part, containing chapters 1-6, is devoted to the defence and articulation of scientific realism along the lines of Psillos's previous book (1999). The second part, encompassing chapters 7-9, deals with the epistemic and ontological versions of structural realism. The third and final part, chapters 10-11, is devoted to the defence of the reliability of inference to the best explanation, and to the criticism of several aspects of subjective Bayesianism.

The first part of the book aims to defend a form of scientific realism which denies that there are any principled limits to knowledge of Nature. Psillos's scientific realism combines the ontological thesis — in Chapter 7 called 'the independence condition' — that there is a mind-independent world, and the optimistic or presumptuous thesis — also called 'the knowability condition' — that even the 'deep' unobservable structure of this mind-independent world is knowable, so that no epistemic division is allowable between what can and what cannot be known. This epistemic thesis is tied to a non-epistemic conception of truth, and it is opposed to a conception of truth as empirical adequacy. It defends a conception of truth as correspondence with reality. Thus Psillos's scientific realism represents both a view of the world and a view of the theories of science in which the world is conceived of as comprising the truth-makers of our theories.

The epistemic optimism associated with scientific realism is warranted by Putnam-Boyd's no-miracles argument (NMA), i.e. the belief that if scientific theories were not at least approximately true, it would be miraculous that they are so successful. "What makes NMA distinctive as an argument for realism is that it defends the achievability of theoretical truth" (50). Moreover, since inference to the best explanation (IBE) is

involved in the defence of realism, Psillos's thesis is that NMA seeks to defend the reliability of IBE. Thus the defence of realism is based on abduction or inference to the best explanation. But it is a meta-methodological, second order or grand abduction (or IBE).

Psillos is well aware of the contingency of the reliability of abductive reasoning. Nonetheless he claims (*ibid.*) that it is reasonable to believe that it *is* reliable, since it tends to generate approximately true theories. Of course, this view is debatable, as it is based on the belief that although the inference from empirical success to approximate truth is fallible, it is nevertheless reasonably good at truth-conducting. Psillos claims (p. xvi) that the best explanation of 'theory-driven' successes "is that the theories that fuelled them were approximately true — at least in those respects that were implicated in the generation of the successes". And he claims also (p. 48) that the original authors of NMA didn't sufficiently stress the relevance of *novel* predictions, which are allegedly the litmus test "for the ability of any approach to science to explain the success of science". Anti-realists might retort that in these cases, Newtonian mechanics, for instance, would be approximately true with regard to the discovery of the Halley comet or the discovery of Neptune, but not with regard to the rejection of Vulcan, the planets' perihelion, the Sun's deflection of light, or the existence of black holes — although in all these cases the Newtonian celestial model was animated (employing Popper's terminology) by the same law: the law of universal gravitation. Indeed, these are the novel predictions which contributed to Einstein's rejection of Newtonian mechanics. But are we entitled to believe that Einstein's relativity theory is truer than Newtonian mechanics? Modesty, humility and prudence may lead us to assume that empirical success is no guarantee or indicator of truth, of closeness to truth, or perhaps least of all, of probability of truth. Thus an anti-realist could argue that we are no better justified in searching for approximately true theories than for empirically adequate ones or even for instrumentally efficient ones.

Novel predictions play also a very important role, Psillos (70-72) claims, in the resistance to pessimistic induction. Here the assumption is that there is theoretical continuity or convergence in theory-change — mainly through the incorporation of successful novel predictions in subsequent theories — and that the generation of an evolving-but-convergent network of theoretical assertions "consists of approximately true assertions." Again, the problem is that an anti-realist would not commit himself to the idea that there is theoretical continuity between Newtonian mechanics, relativity theory and maybe even quantum gravitation. Nor would he commit himself to the belief that there is theoretical continuity between standard quantum mechanics, Bohmian mechanics and non-linear quantum theories. The reason is the theoretical incompatibility between these theories. Since the scientific images of these theories can be in no way convergent, it is doubtful that an anti-realist would accept Psillos's *dynamic* image of science "according to which theories improve on their predecessors, explaining their successes, incorporate their well-supported constituents and lead to a more well-confirmed (and according to current evidence, truer) description of the deep structure of the world." (p. 83)

In conclusion, it is doubtful that any anti-realist would accept Psillos's arguments in defence of first-order abduction, or inference to the best explanation at the methodological level, as "the kind of inference which authorises the acceptance of a hypothesis H as true, on the basis that it is the best explanation of the evidence" (p. 68), or in favour of the second-order abduction, grand abduction or meta-methodological IBE, as the kind of inference which allegedly authorises the acceptance of scientific realism as the best philosophical hypothesis that explains the empirical success of mature theories.

The question of continuity or convergence connects Parts 1 and 2 of the book. The second part is devoted to the discussion of the possibility of structural realism (SR) as a viable realist stance. Psillos distinguishes between *restrictive structural realism* (RSR) — there is something other than structure in the world, which cannot, however, be known — and *eliminative structural realism* (ESR), whereby there is nothing other than structure in the world, i.e. all there is, is structure. RSR would fail to be realist enough as it focuses on the knowability of purely formal structures. ESR would fail because "it implies the wrong ontological thesis that structures require no individuals in order to exist and the wrong epistemic thesis that they can be known independently of (...) individuals which instantiate them." (p. 135) Moreover, following Shapiro's distinction between *ante rem* and *in re* structuralism, Psillos argues that in both cases structures need objects. Psillos's conclusion is that SR is a very humble philosophical thesis which rests on two assumptions. The first one is not very appealing: "the world has a natural structure that act as an external constraint on the truth or falsity of theories" (p.170). The second one "is just a sober report of the fact that there has been a lot of structural continuity in theory-change." (135) Both theses would be reconcilable to any form of realism.

Psillos's rejection of SR may be welcome by any anti-realist philosopher of science. But since Psillos does not question the notion that theoretical structures represent the world, or that there could be structure retention across theory change, a genuine anti-realist might claim that both theses also constitute two dogmas of structural realism. The rejection of both dogmas would completely void SR of any realist identity marks. And in the end SR would not even be a modest realist stance.

Finally, besides a small chapter devoted to reasonably resisting the idea of the incorporation of IBE within subjective Bayesianism, Part 3 deals mainly with abduction as the best implementation of scientific method that satisfies two desiderata: to be ampliative and epistemically warranting. Putting ampliative reasoning on an equal footing with deductive testing, Psillos helps overcome Popper's anathema against the old context of discovery. This is a welcome contribution to the methodology of science, as it leaves open the possibility of pioneering new forms of *ars inveniendi*, nearly unexplored until now in the context of scientific discovery: for instance of the applicability of deductive reasoning for the purposes of scientific creativity.

Only one question in Psillos's approach generates further discussion. He claims, in a certain Popperian mode, that it is entirely reasonable to stick with the best explanatory hypothesis, i.e. the hypothesis that "has rested on the examination and neutralisation of possible undercutting defeaters" (p. 192). An anti-realist philosopher of science

is satisfied with the mere idea that the hypotheses or theoretical models achieved by ampliative reasoning behave as reliable tools for dealing predictably with Nature. The realist needs to believe that they are nearly true, truth-like, approximately true, or something along these lines. But this is the very value of Psillos's book. It keeps the epistemological debate open, and in a very stimulating way.

Psillos's *Knowing the Structure of Nature* is a serious, rigorous and critical contribution to contemporary philosophy of science. It deserves to be read slowly, patiently, and critically, in such a way as to glean from it the maximum philosophical benefit.

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VÍCTOR SÁNCHEZ DE ZAVALA, *Investigaciones sobre la actividad lingüística. Obras escogidas*. (Textos seleccionados por Fernando García Murga). Bilbao: Servicio Editorial de la Universidad del País Vasco, 2008.

El este volumen se recogen las contribuciones principales de VSZ a la Lingüística y a la Teoría del lenguaje. La obra de VSZ adquiere mayor valor teórico y metodológico si se la contextualiza. Sólo un apunte al respecto: el XI Congreso de Filósofos Jóvenes (1974) estuvo dedicado al tema "Estatuto Epistemológico de las Ciencias Sociales". Debía haberse celebrado en La Laguna, y en primavera (como venía siendo —y siguió siendo— habitual); pero circunstancias políticas (que por aquellos años tenían cualquier evento cultural, académico o social) lo impidieron, y se trasladó a Madrid, en otoño. La estrella invitada, tanto por el tema de su ponencia ("El estatuto epistemológico de la Lingüística Generativa"), como por el prestigio del ponente fue VSZ. El éxito de la convocatoria, su brillante exposición y novedosas propuestas provocaron encendidas discusiones, que prosiguieron fuera ya del aula con escenificación dialogada (y arma incluida) entre dos ilustres catedráticos de la frase de Marx: "contra el arma de la crítica está la crítica de las armas". Pese a la fuerte resistencia académica, la potente teoría chomskiana penetró con fuerza en España en la década de los 70, invadiendo, no sólo la Lingüística, sino también la Filosofía, la Psicología y la Metodología de las CC. Humanas. Sus más que notables potencialidades metodológicas fueron acogidas por algunos con excesivo entusiasmo acrítico; pero por otros (entre ellos VSZ) con una gran perspicacia crítica, como queda patente en los escritos recogidos en este volumen.

Tras la crítica pormenorizada de las deficiencias epistemológicas del estructuralismo (de contenido mayormente francés) y el entusiástico descubrimiento de "la escuela lingüística más revolucionaria" (la generativa-transformatoria), VSZ va diseñando y puliendo, a lo largo de los años 60, una teoría lingüística (*Hacia una epistemología del lenguaje*, 1972), cuyos pilares, a mi juicio son tres: La teoría del lenguaje de K. Bühler; la teoría de la ciencia de K. Popper; y la teoría lingüística de Chomsky. VSZ se sube al carro del generativismo en los años 60; el generativismo "representa a mi juicio sin el menor género de duda la brecha por la que hay que adentrarse hoy si se tiene intención de lograr avances no meramente locales" (*Hacia una epistemología del lenguaje*, p. 76). Y desde allí considera que el estructuralismo no es una teoría lingüística auténtica, ya