objection (which can be linked to Frege's remarks about the irreducibility of the notion of truth in Frege 1918) but I think it does not have to be fatal for him. The notion of truth has to be understood, but it is enough that it be understood only implicitly. And the implicit understanding does not have to involve the treatment of the sentence and regarding it as true or otherwise.

The deceiving necessity of understanding logic as giving us directives about how to reason stems mostly from the need to somehow clarify the purpose of logic, i.e. why should it be better to have logic at all. In Peregrin's understanding, largely influenced by Brandom, logic is in a way both prior and subsequent to the rest of the meaningful discourse. That is, it is prior implicitly, as the sounds we emit cannot be regarded as truly meaningful without their standing in logical relationships, such as entailment or incompatibility. Yet logic as a tool of making these relationships explicit can come to the fore only after they exist (which of course does not mean that acquiring logic cannot lead us to changing the relations afterwards, exactly because we are then capable of judging them).

Asking what is the purpose of logic it thus very close to asking what is it good for to live as meaning-mongering creatures at all.

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References

FREGE, G. (1918): Der Gedanke. Eine logische Untersuchung. *Beiträge zur Philosophie des deutschen Idealismus* 2, 58-77.
LORENZEN, P. – LORENZ, K. (1978): *Dialogische logik*. Darmstadt: Wissenschaftliche Buchgesselschaft.
McDOWELL, J. (1994): *Mind and World*. Harvard University Press.
QUINE, W. V. O. (1986): *Philosophy of Logic*. Cambridge: Harvard University Press.
ROSS, A. (1957): Tû-tû. *Harvard Law Review* 70, 812-825.

Theodore Sider: *Writing the Book of the World*
Oxford University Press 2011, 318 pages

This book brings arguments for metaphysical realism, and its aspiration appears to be to make them knock-down. Sider tries to convince the reader that we can identify the structure of the world; he believes that we can reach the access to

its fundamental level if we adopt a modified version of David Lewis's theory of naturalness. Such a high aspiration may easily lead to a deep disappointment. The present book, fortunately, is not deeply disappointing, though, unfortunately, I would not say it is so persuasive as to live up to its aspirations.

The book consists of thirteen chapters, but only in four "core" chapters (1, 2, 6, and 7) Sider explicates the idea of structure and fundamentality. In the rest of the chapters he focuses on possible applications of his ideas and the comparison of his theory with those of his rivals. Although someone interested in the particular topics Sider discusses (quantifier realism, philosophy of time, laws, intrinsic properties, modality…) may find them interesting, they do not really reinforce the main ideas introduced in core chapters. This imbalance between the space for presenting the idea of structure/fundamentality and its applications leads me to my first critical point. Only arguments presented in the core chapters back up Sider's views about fundamentality in a "positive" way – by means of explicit arguments. Arguments in the rest of the chapters are mostly meant to support his views by showing what we can potentially gain if we adopt his realism about structure. This may not be a bad idea by itself. But showing potential gains is not enough to convince the reader who does not believe that the kind of realism is well founded.

Sider calls himself a knee-jerk realist. He believes that we must conform to the world and the best way how to do it is by means of physics; especially by those parts of physics which try to explain our world on its most fundamental level of quarks and properties like mass and charge. At this point, Sider follows David Lewis and his theory of naturalness. According to Lewis, we can use the criterion of naturalness to decide which of the possible meaning candidates has relatively highest degree of naturalness and should be understood as the meaning of a predicate. The degree of relative naturalness of a meaning candidate (i.e. property) is a matter of the syntactic complexity of its definition in fundamental terms (mass and charge) – the lower the syntactic complexity, the higher the degree of naturalness. Let's say we want to find the most natural candidate for the predicate 'being lithium'. To achieve this we have to track the chain between what we call lithium to its micro-physical properties – mass and charge. The point is that if we have a "gruesome" candidate for this role (lithium until the next year and then iron), the definition will be longer than the definition of the "intended" meaning (because we must state all fundamental properties of lithium *and* of iron) and therefore it should not be understood as the meaning of the predicate 'being lithium'. But this is also the last point in which Sider follows Lewis.

According to Sider, predicates which are closest to fundamental properties carve the world at its joints. In other words, the distinctions suggested by the fun-

damental terms are in accordance with the structure of the world. The existence
of the structure is supported by the "Quinean argument". According to this argu-
ment, we should accept that the ontology of our best theory (the theory of physics
in our case) is in accordance with the structure of the world. But unlike Quine,
Sider believes that the best theory vindicates also other notions included in our
ideology (in particular: mathematical and logical notions) and therefore we
should accept them as a part of the structure of the world too. Terms, in which the
ideology is stated, are vindicated because they take their part in the success of the
theory. This also means that – in contrast to Lewis – we should broaden the scope
of fundamentality beyond predicates to logical and mathematical terms, because
they are indispensable for the success of our best theory.

The acceptance of the whole project of Sider's realism relies on the willing-
ness of the reader to accept this argument. Therefore it should be subjected to
a high level of scrutiny. But as far as I can see Sider takes it for granted – his only
attempt to back it up is by showing potential deficiencies of explanations of re-
lated topics (e.g. substantivity or modality) if we try to explain them without ref-
erence to the notion of structure.

But even if we are willing to accept Sider's argument and we accept that there
is the structure of the world and we *can* identify its fundamental parts – proposed
by physics, logic and mathematics – there are other important issues which
emerge and which are not addressed in the book at all. If we accept mathematical
and logical entities as fundamental, how does this influence the way in which we
define the degree of naturalness of properties? As I said earlier, the degree of
naturalness is stated by the syntactic complexity of definitions in *fundamental
terms*. Since mathematical and logical terms are also fundamental, they don't
need a definition. They are defined, as it were, "by themselves". But does this
mean that numbers can be included in definitions of some ordinary language
predicates like 'being human'? What is their role in those definitions in compari-
son to mass and charge? We can state the "quantity" of mass in some physical
units, but what is "the unit for mathematical entities"? Moreover, logical terms
have already been included in definitions – conjunction and disjunction were
used to relate masses and charges of different physical particles within one defini-
tion. Did the position of logical terms in definitions change after we accepted
them as fundamental? Can they be included in definitions not only as connec-
tives, but also as fundamental terms?

I understand that if Sider wants to claim that logical terms are fundamental,
he has to answer challenges stated by his opponents who undermine the funda-
mentality of some logical notions. But this is still only a strategy of showing
gains. The final upshot would look far more convincing if it were based on a sat-

isfactory and more detailed explanation of "internal relations" between funda-
mental parts *within* the structure.

Sider could respond that his main aim is not a metasemantic theory for ordi-
nary language; so he doesn't need to pay much attention to possible problems
with fundamental definitions of ordinary terms. His aim is to build the On-
tologese – a language of metaphysics which is primarily stated in fundamental
terms. This is certainly true, as well as that the main feature of the Ontologese is
an independence of its (meta)semantics from the (meta)semantics of ordinary
language and vice versa. But despite their independence, Sider believes that there
is no theoretical obstacle which could stop us in providing definitions of our or-
dinary terms in terms of the fundamental ones. Moreover, even the Ontologese
will probably involve less-than-fundamental terms which need to be defined. And
this seems problematic, until we answer basic questions about relations of fun-
damental terms.

This said, I must also stress that the book has several positive aspects. With
regard to the length of the review, I am not going to focus on the discussion of
possible applications of Sider's notion of a joint-carving/structure. Some of them
could surely present a valuable contribution to particular topics – e.g. his applica-
tion of joint-carving within Bayesianism to setting the prior probability distribu-
tion or his discussion of deflationism in terms of quantifier variance.

However, the most positive aspect of Sider's realism lies in its most general
motivations. And as far as I can tell, those motivations are the right ones. First of
all, it's the idea that being a realist doesn't mean to have a ready-made answer for
every metaphysical question. It requires patient reconsidering of particular ques-
tions case by case. Secondly, it is the idea that it would be naïve to suppose that
we can answer any metaphysical question without looking at the world – by mak-
ing stipulations regarding how the world must and could be or by conceptual
analysis of the ordinary language. If we want to say something about the world
we must build on what we have already found out and look for answers we still
don't have. Thirdly, it is the defeasible character of his views. Sider doesn't try to
pretend that he uncovered the eternal and unchangeable truth about the world and
its structure. His main assumption relies on the notion of the best theory of the
world. And what Sider proposes is based on what our best theory tells us about
the world. If we are forced to change the best theory, he is willing to accept con-
sequences and possibly modify or abandon his views without any hesitation. This
may sound like a weak point of the book, but it is actually its highest virtue. It is
a step in a good direction for realism in metaphysics.

Furthermore, the book wants to offer something more than to be a one of
many metaphysical theories. Throughout the book Sider draws a line – the line

delineating boundaries of metaphysical investigation. We can look at the book as on an attempt to create a safe ground for metaphysics. A ground deprived of any debts to ordinary language, modality or any other philosophical investigation. It is an attempt to redefine the scope and – most importantly – the methodology of metaphysics. Building "toy" metaphysical languages (meant as some earmarked parts of the Ontologese) could be a way how to approach various questions in metaphysics. After all, the book offers several illustrious examples. As Sider says – you are invited to enter the metaphysics room. The Ontologese and the methodology of the toy languages definitely need some enhancements to play the role of a common ground for metaphysics. But it is up to the reader if she wants to step in and try to improve it from within.

The book offers an interesting metaphysical theory advocating realism about structure and it is definitely obligatory reading for anyone interested in current metaphysics. It is a book with a potential to change a course of metaphysics in nearby future. But there are still open issues which need to be elaborated in Sider's idea of structure – mainly the role and relations of mathematical and logical fundamental terms. For now, I prefer sticking with a more sceptical view about the possibility of writing the book of the world.

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