MLE, Hilary 2009, week 8
Agustín Rayo 2007. 'Ontological Commitment'. *Philosophy Compass* 2(3), pp. 428-444.

1 The Notion of Ontological Commitment

The truth-conditions of S = the demands that the truth of S imposes on the world/ the ontological commitments S carries = those demands that concern ontology/ existence

(Char) S carries a commitment to *Fs* IFF the truth of S demands that the world contain *Fs*.

- Makes ontological commitments *aspects* of a sentence's truth-conditions. Consequences: Change OC, Change TC, Indeterminacy
- There are other aspects of a sentences truth-conditions, e.g. its size (of the universe) condition. However, some truthmaker-theorists think that the ontological commitments are the only aspects of a sentence's truth-conditions.

Demand talk vs. must talk

Collapsing demand talk into modal talk such that Char's right-hand-side would read 'every world in which S is true contains *Fs'* not only is a substantial move but also one we might want to stay away from because:

> [The stubborn modalist is] conceptually impoverished: he will not see it as a conceptual possibility, for example, that Platonism is a necessary truth and yet non-committalism is the best account of mathematical discourse; he will be able to make no sense, so long as he admits that there are necessities other than the mathematical truths, of the conservative committalist's claim that the existence of numbers is the sole commitment of the truth of mathematical claims; he will not understand what is at issue in a dispute between two philosophers who both believe in sets but who disagree whether there being a set of the *Fs* is a commitment of plural quantification over the *Fs*; he will not be able to make sense of the claim that the truth of 'Socrates' singleton exists' demands the existence of Socrates but that the truth of 'Socrates exists' does not demand the existence of Socrates' singleton. (Ross P. Cameron 2009. 'Triviality and Necessity'. (*ms*) pp. 4)

How to understand demand talk? Via our understanding of what truth-conditions are. Demand talk is merely a device for *stating* what the truth-conditions of a sentence consist in. Also, demand talk obeys Kripke-style substitution rules for (rigid) names and predicates such that

- Hesperus = Phosphorus → the demand that the world contains H = the demand that the world contain P
- Water = H_2O → the demand that human bodies are mostly composed of Water = the demand that human bodies are mostly composed of H_2O.
- being red ≪ being scarlet → the demand that the world contain a red ball ≪ the demand that the world contain a scarlet ball

Deny those (semi)-identities and you need to explain why demands should be more more fine grained than that!

2 Quine's Criterion

(Qc) A first-order sentence S carries commitment to *Fs* just in case *Fs* must be counted among the values of the variables in order for S to be true.[1]

Char and Qc are NOT rivals. Char is a general characterisation of the *notion* of ontological commitment whilst Qc proposes a test that tells us with respect to (singular) first-order sentences whether or not their truth demands the existence of *Fs.* If Qc is correct, then it helps to decide the commitments (elephants only, or also elephanthood/ the set of all elephants?) of

(1) $\exists x$ Elephant(x).

- Whilst Char is no help in this matter, Qc gives a straightforward answer: only elephants (but not properties or sets) are needed amongst the values of the variables. Thus, (1) carries commitment to elephants only.
- Qc trades on a *substantial claim* about a correlation between the ontological commitments of a first-order sentences and (parts of) the semantic machinery employed by a semantic theory employed to specify (1)'s truth-conditions—i.e. a correlation between the semantic values of the variables and the sentences commitments.

BUT: such a correlation (between semantic values utilized in semantic theorizing and ontological commitments) is not constitutive of the *notion* of ontological commitment). If anything, it's an substantial and important insight about first-order sentences.

LESSON: We should distinguish between the commitments of a sentence and the commitments of the semantic theory in which truth-conditions for the sentence are stated: Compare the status that the semantic values of predicates, i.e. sets, have vis-à-vis a sentence's commitment! It is at least conceivable that the commitment to elephants is merely a commitment of the semantic theory for (1) and not of (1) itself.

QUESTION How to to decide? '*F*' applies → *Fs* exist ('*a*' refers → *a* exists) ... but not '*F*' applies → the set of *Fs* exists. Then again, maybe not. Rayo thinks that in some cases not even the semantic values of singular terms/the objects predicates apply to are part of a sentence's commitment.

Even if one accepts Qc for *first-order languages*—i.e. if one accepts that in *this* case the semantic values of the variables are part of the ontological commitments—there's no reason to suppose that such a correspondence will hold in non-first-order languages. E.g. standard semantics for modal sentences has it that the variables of the first-order quantifier in

(2) $\Diamond \exists x$ Elephant(x) $\wedge$ Purple(x)

range over (objects representing) possibilia. BUT that only means that this semantic theory carries a commitment to (objects representing) possibilia. Whether (2) itself does so, is still an open question.

[1] "By 'the variables', I mean the variables of the language rather than the variables of the sentence, so as to ensure that, e.g.'Runs(Charles)' carries commitment to runners (and to Charles), even though it contains no variables. By 'first-order language', I mean a language containing objectual first-order quantifiers." cp. Rayo 2007: 443, FN 4.

Is* Qc *adequate?

Problem1: Qc under-generates when the language under scrutiny contains atomic predicates that express extrinsic properties. Since having a parent $\ll$ being a daughter, the demand that the world contain parents $\ll$ the demand that the world contain daughters. Renders the truth of

(3) $\exists x$ DAUGHTER(x)

as demanding that the world contain parents. But in order for S to be true, parents needn't be among the values of (3)'s variables.

Three Options:

1. RESTRICTION: Restricting Qc's application to sentences in which the atomic predicates express intrinsic properties. BUT: Threatens to make Qc uninteresting.
2. ANALYSIS: Attempt to analyze the troublesome extrinsic predicates in terms of intrinsic ones. BUT: prospects of such an enterprise are bleak.
3. MODESTY: Accept that QC's R-to-L direction

   If *Fs* must be counted among the values of the variables of a first order sentence S in order for S to be true, then S carries a commitment to *Fs*

   is a sufficient condition for OC (for first order Ls) but add the caveat that the L-to-R direction

   If a first-order sentence S carries commitment to *Fs*, then *Fs* must be counted among the values of the variables in order for S to be true,

   is only an adequate necessary conditions if L's atomic predicates are not problematically extrinsic.

Problem2: Disambiguating 'must'?

Worries about Quine-scholarship aside, two ways of disambiguating the 'must' have been proposed:

Qc-META: A first-order sentence ψ carries commitment to *Fs* just in case, as evaluated with respect to an arbitrary possible world, ψ is true only if *Fs* are counted among the value of the variables.

Qc-LOGIC: A first-order sentence ψ carries commitment to *Fs* just in case $\ulcorner \psi \rightarrow \exists x P(x) \urcorner$ is a truth of (negative free) logic for some predicate P expressing F-hood.[2]

Problem3: Qc-META either over-generates or under-generates

Consider the properties of being Prince Charles and being Queen Elizabeth II. Assume first that they are purely intrinsic, i.e. $\sim$ (having Queen Elizabeth II. as a mother $\ll$ being Prince Charles). On this assumption the truth of

(4) $\exists x\ \exists y$ [CHARLES(x) $\wedge$ ELIZABETH(y)]

[2] "The restriction [to truths of negative free logic]]is needed to avoid the conclusion that, e.g. an arbitrary sentence carries commitment to every object named by an individual constant in the language." Cp. Rayo 2007: 443, FN 6.

demands that the world contain Charles and Elizabeth BUT does not demand that it contain mothers.

- Due to necessity of origin every possible world in which Charles exists is a world in which he has Elizabeth as his mother, QC-META tells us that (4) carries a commitment to mothers because in every possible world mothers are counted among the values of 'y'.

Now assume that being Prince Charles is extrinsic, i.e. having Queen Elizabeth II. as a mother $\ll$ being Prince Charles. Then the truth of

(5) $\exists x$ CHARLES(x)

demands the world to contain mothers whilst QC-META tells us that (4) doesn't carry a commitment to mothers (Problem of extrinsicness again!)

Problem4: QC-LOGIC under-generates

On QC-LOGIC: If '$\exists x$ F(x) $\rightarrow \exists x$ G(x)' isn't a logical truth, then '$\exists x$ F(x)' doesn't carry a commitment to *Gs.*

On CHAR: If being $G \ll$ being F, then the demand that the world contain *Gs* $\ll$ the demand that the world contain *Fs.* Thus, '$\exists x$ F(x)' does carry a commitment to *Gs*

- Replacing 'logical truth' with 'analytical/metaphysical truth' doesn't work.

QC-LOGIC$_{\mathbf{R}}$: A first-order sentence ψ carries a commitment to *Gs* just in case: (a) $\ulcorner \psi \rightarrow \exists x P(x) \urcorner$ is a truth of negative free logic for some predicate P expressing F-hood, and (b) being $G \ll$ being F.

Commitments and Contradictions: According to QC, contradictions carry arbitrary commitments. True, contradictions make impossible demands but unclear whether demanding the impossible is to demand everything.

3 Beyond (Singular) First-Order Languages

As formulated QC-$_{\mathrm{R}}$*Logic* only is applicable to (singular) first-order sentences. How then are the commitments of sentences that are not (singular) first-order to be assessed?

- Maybe every intelligible sentence has a commitment preserving (singular) first-order paraphrase on whose basis its commitments can then be assessed via QC, but that is a substantial thesis which many deem false.

Plurals

(GKB) Some critics admire only one another.

(GKB-SET) There is a non-empty set of critics such that any member of the set admires only other members of the set.

If GKB-SET is an adequate and commitment preserving paraphrase, GKB turns out to carry a commitment to sets:

- Those who think that GKB doesn't carry set-commitments do not quarrel with QC's application to GKB-Set but with its adequacy as an paraphrase of GKB.
- Motivation is that whilst GKB-Set demand the existence of a set, GKB only demands the existence of some critics and that those only admire each other.

To bring this out, one can take refuge in a *plural* first order language which is obtained by adding to the classical first order language the following:

(a) plural terms, i.e. plural referring expressions and plural variables (e.g. 'xx' , 'yy') taking their place

(b) plural predicates, i.e. predicates that take plural terms as arguments (e.g. '$x \prec yy$' = 'x is one of the yy')

(c) plural quantifiers, i.e. quantifiers that bind variables in the positions of plural referring expressions. (e.g. '$\exists xx$' = 'there are some things such that')

With this addition in place GKB can be rendered as

(GKB-Plural) There are some things xx–the critics–such that, for any y and z: if y is one of the xx and y admires z, then z is one of the xx and z isn't identical to y. (formalized: $\exists xx\ \forall y \forall z\ ((y \prec xx \wedge \text{ADMIRES}(y,z)) \rightarrow (z \prec xx \wedge y \neq z))$

If one then amends the Quinean dictum that 'to be is to be the value of a (singular first-order) variable' to 'to be is either to be *the* value of a (singular first-order) variable or to be *one of the* values of a (plural first-order) variable', one gets the result that GKB carries a commitment to critics (the values of the plural variable xx) but not to sets.

Ontological Commitments and Plethological Commitments

QC only speaks to the question of whether a sentence ψ carries a commitment to Fs when 'Fs' is replaced with a pluralized count-noun which is read *distributively*, i.e. in cases where being F is a solitary venture, such as being a critic, a number, a seashell.

It is bound to remain silent on the question of whether a sentence ψ carries a commitment to Fs when 'Fs' is replaced with a pluralized count-noun which is read *collectively*, i.e. in cases where being F is a joint venture. A solitary seashell can try as it may, it will never be a seashell scattered across the ocean floor, and the same holds for the solitary number who tries to be infinite in number, or the lone Indian who vainly tries to surround the fort.

- Ontological Commitments: Demands a sentence's truth imposes on the world which speak to the question 'Are there Fs' when 'F' is replaced by a distributive count-noun.
- Plethological Commitments: Demands a sentence's truth imposes on the world which speak to the question 'Are there Fs' when 'F' is replaced by a collective count-noun.

QC-Pleth: A (singular or plural) first-order sentence S carries a plethological commitment to Fs just in case Fs must be counted must be counted among the variables of the (singular or plural) variables in order for S to be true.

Assuming that GKB-Plural is an adequate and commitment preserving paraphrase of GKB, GKB turns out to carry a plethological commitment to critics who only admire one another.

- Not only plural first order sentences can carry plethological commitment. E.g. the singular first-order sentence '$\exists x \exists y\, x \neq y$ ' carries a commitment to objects of which there are two, i.e. to two objects.

Modal Sentences

- No Modality today!

Sentential Commitment vs. Attitude Commitment/ Truth-Conditions vs. Correctness Conditions

The ontological commitments carried by a sentence S can not automatically be equated with the commitments a speaker incurs in an utterance of S.

Two possible reasons: (i) because utterance is an assertion but not an assertion of the content of S, (ii) because utterance is made with non-assertoric force.

- e.g. utterance could be a supposition or made in a spirit of make-believe (Yablo) or merely aimed at empirical adequacy (van Fraassen)—call this *quasi-assertion*

- for a speech-act to be correct, its content needs to satisfy the criterion of adequacy associated with it

Criteria of correctness:

- assertion: Truth—an assertion of of some content C is correct IFF C is true (or *known*, if you are Tim, but epistemic aspects seem irrelevant here)

- types of quasi-assertion: an quasi-assertion of a content C is correct C is F—for some 'F' corresponding to the kind of quasi-assertion in question

I'm unsure about the difference between (i) and (ii).

When is an speaker S in producing an utterance U of a sentence P asserting *something*?

- $\exists p$ (i) in producing U—i.e. in uttering P—S puts P forward as true, (ii) S does so with the aim of doing so just in case it is true that p. (connection between P*'s* content $[P]$ and the asserted content [p] is left open)

When is an utterance U of a sentence P an assertion of $[P]$?

- $\exists p$ (i) in uttering P S puts P forward as true, (ii) S does so with the aim of doing so just in case it is true that p, and (iii) $[p] = [P]$.

When is an utterance U of a sentence P a quasi-assertion of [P]?

- $\exists p$ (i) in uttering P S puts P forward as true, (ii) S does so with the aim of doing so just in case $[p]$ is F, (iii) $[p] = [P]$, and (iv) $\exists q$ $[p]$ is F (e.g. empirical adequate/ fictionally correct/ ...) IFF $[q]$ is true. (Where $[q]$ may state the observable consequences of $[p]$ or be something like [according to *f*, *p*]

If so, all these speech-acts (and generally any speech-act whose performance can render a speaker as having incurred a commitment) involve *some* assertoric force, the question only is to which contents the assertoric forces attaches. Literal content of vehicle of assertion, or some contents that are (somehow) related to it?.

- If this is correct, then a speech-act carries commitment to *Fs* just in case it involves assertoric force which attaches to some content whose truth demands that the world contains *Fs.*

- Extends to non-public attitudes such as belief. By bearing attitude A to a content C x incurs a commitment to *Fs* IFF (i) A is truth-directed at C, and (ii) C carries a commitment to *Fs*, i.e. *C's* truth demands that the world contain *Fs.*

Appeal to quasi-assertion is a popular move in, for instance, the philosophy of mathematics. BUT: note that divorcing the correctness conditions of an utterance of a sentence from the sentence's truth-condition doesn't by itself guarantee ontological innocence. One also needs to tell a story about *why* the correctness conditions are ontologically innocent. Cp. e.g. Yablo's *Kantian Logicism* according to which every truth of pure arithmetic has a logical truth as its real (or asserted) content. This only delivers the standard truth-values for arithmetical sentences if there are infinitely many objects.

(6) $5+1=7$

for instance gets

(6_R) $\forall F \forall G\ ((\exists_5 x Fx \wedge \exists_1 y Gy \wedge \sim \exists z Fz \wedge Gz) \rightarrow \exists_7 w(Fw \vee Gw))$

as its real content. Although the standard truth-value of (6) is FALSE, its real content (6_R) comes out as (vacuously) true if there are less then 5 objects. This holds for any *n+1* if there are only *n* objects. Thus the infinitary requirement. Hence, Kantian Logicism—though ontologically innocent with respect to numbers—still harbours a plethological commitment to infinitely many object and is thus far from ontologically innocent.

Natural Language

Finding an *informative* criterion for the ontological commitments carried by natural language *sentences* is difficult because this presupposes a theory of truth-conditions for natural languages we don't have.

Finding an *informative* criterion for the ontological commitments incurred in natural language *speech-acts* is difficult because this presupposes a theory of conversational pragmatics that we do not possess either.

All is lost then, when talking naturally? Not quite, because we can take refuge in regimentation.

- When performing a certain task which warrants queasiness about incurring ontological commitments, one *can* always shun the murky business of performing natural language speech-acts and instead opt for assertions of the contents of formalized sentences whose truth-conditions and thus commitments we are clear about.

- Only on the condition that the regimented replacements serve the task at hand equally well (or well enough) as the replaced originals would have served it. How do we know that? Given Rayo's skepticism, why is it ok to make these judgements of adequacy? And assuming it is ok to make these adequacy judgements, wouldn't that soften his skepticism a bit?

- Other means of regimentation besides plurals and modals: substitutional quantification, non-material conditionals, non-standard quantifiers.

4 The Significance of Ontological Commitment

The Carnapian Tug: Using object talk to specify truth-conditions is a matter of convenience and may in the presence of an equally good way to do so become expandable.

Rayo's take on it: A theory of linguistic and mental content is instrumental, i.e. the only measure of goodness is its usefulness in understanding our use of language and mental life.

A theory of content should provide a structure for the space of possible demands on the world, i.e. the space of possible truth-conditions. One important structuring criterion is the strength of the demands that get structured.

- Once the truth-conditions are structured, it gets implemented by (i) assigning the pertinent sentences and mental attitudes positions in the structure, and (ii) by assigning a given demand to each position in the structure.

- Doing so is empirically constrained. Let δ_1 and δ_2 be positions in the structure which respectively are occupied by the demands that tigers be dangerous and that there be no dangerous creatures in the garden. One then should assign δ_1 as the content of one of Jones' beliefs and δ_2 as the content of one of his desires only if one thinks that Jones will expel (or at least that he is disposed to do so) any tigers from his garden. In case one discovers that Jones wasn't so disposed, one might want to the rethink ones previous content assignments to his attitudes.

BUT: Despite such empirical constrains, we cannot rule out *a priory* that different such implementations make for equally good tools for understanding the language usage and mental life under scrutiny. Due to the instrumental nature of those theories of content, the choice between those two theories would be based merely on pragmatic considerations such as for instance which makes for a more convenient use.

EXAMPLE: Take the language of arithmetic and imagine two different implementations of a given structure, $\mathfrak{I}_1$ and $\mathfrak{I}_2$. Both structures assign the same position δ to

(7) $Num_x[\text{PLANET}(x)]=8$

- On $\mathfrak{I}_1$ δ is assigned the demand that the number of planets be identical to the number 8. Consequently, using $\mathfrak{I}_1$ would render (7) as carrying a commitment to numbers.

- On $\mathfrak{I}_2$ δ is assigned the demand that there be exactly eight planets. Consequently, using $\mathfrak{I}_2$ would render (7) as carrying no commitment to numbers.

If $\mathfrak{I}_1$ and $\mathfrak{I}_2$ were part of our two best theories of content such that neither of these theories is more successful then the other, then the choice between them would have to a pragmatic choice and the question of what the real commitments (7) carries are would become mute.