The Thickness of A-Intensions

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The incredible stare

In what sense may (1) be said to be a piece of substantial a priori knowledge?

(1)   Water is watery stuff.

Apriority by reference-fixing?

1.

(2)   dthat(watery stuff) is watery stuff.

where "dthat(...)" is *not* a rigidifying operator, but a directly referential singular term.

The problem with this first reading is that it does not ensure that (2) is actually true:

> Thesis 5 says that the statement "If X exists, then X has most of the ϕ's", is *a priori*
> true for A. Notice that even in a case where ["If most, or a weighted most, of the ϕ's
> are satisfied by one unique object y, then y is the referent of 'X'.'] and ["If the vote
> yields no unique object, 'X' does not refer."] *happen* to be true, a typical speaker
> hardly knows *a priori* that they are, as required by the theory. I *think* that my belief
> about Gödel *is* in fact correct and that the 'Schmidt' story is just a fantasy. But the
> belief hardly constitutes *a priori* knowledge. (Kripke 1980: 87)

2.

(3)   The local watery stuff is watery stuff.

3.

(4)   Julius invented the zip.

(5) ϕ(whoever is the ϕ)

(6)   Let "Julius" denote whoever invented the zip. Then it is a priori that Julius invented it.

> ...for this representation [of (4) as a contingent a priori truth] to be right, we must
> add that the stipulation in question was made in each of the worlds i, j and k. One
> who did not know about the stipulation, or did not understand it, would not know
> that the statement was true. (Stalnaker 1999: 15)

We do not gain new knowledge of contingent facts, like the fact that water is a liquid, but we are rather making true something:

> If someone fixes a meter as 'the length of stick S at t_0', then in some sense he knows *a priori* that the length of stick S at t_0 is one meter, even though he uses this statement to express a contingent truth. But, merely by fixing a system of measurement, has he thereby *learned* some (contingent) *information* about the world, some new *fact* that he did not know before? It seems plausible that in some sense he did not, even though it is undeniably a contingent fact that S is one meter long. (Kripke 1980: 63)

Apriority by rigidification?

(7)   ‡(watery stuff) is watery stuff.

where ‡ *is* a rigidifying operator that takes a description to form a singular term denoting in all possible worlds whatever uniquely satisfies the description in the actual world.

Unlike "ϕ(dthat(the ϕ))" (5), "ϕ(‡(the ϕ))" ("whatever is ϕ is ϕ") *is* a truth of logic and can thus plausibly be taken to be a priori. The problem now is not with the a priori, but with contingency: how could "ϕ(‡(the ϕ))" fail to be true? Given that "water" is a rigid designator, why does it matter whether it is a rigidification of "watery stuff" and not of "$H_2=O$'?

(7) claims that "watery stuff" is world-independent – but is it?

In Chalmers' framework, the difference between the two rigidifications is that the definite descriptions used play different roles in the fixation of the reference of "water": you use "watery stuff" to rigidify its primary, and "H_2O" to rigidify its secondary intension. We get for (7):

(8)   †(water) is watery stuff.

where † is Stalnaker's dagger, a function mapping a singular term a to another singular term †a denoting in every possible world the semantic value a would have if used there, i.e. a function projecting its diagonal intension onto the horizontal (Stalnaker 1978: 82). For "water is H_2O", we get

(9)   ‡(water) is H_2O.

where ‡ is Stalnaker's 'upside-down dagger', i.e. a function mapping a singular term a to another singular term ‡a denoting in every possible world the semantic value of a attributed to your actual use of the term, i.e. a function projecting the diagonal proposition onto the vertical (Stalnaker 1978: 83, n.).

Given that "water" has the primary and secondary intensions it is claimed to have, (8) and (9) are true in the actual world, but are they respectively a priori and a posteriori? To be a priori, it is claimed, is to have the same primary intension. But what are the primary intensions of "watery stuff" and "H_2O"?

"water"	H_2O	H_2O	H_2O	"watery stuff"	H_2O	XYZ	ABC
	XYZ	XYZ	XYZ		H_2O	XYZ	ABC
	ABC	ABC	ABC		H_2O	XYZ	ABC

We have water = ‡(water) and watery stuff = †(water).

But how can we be sure to have written down the right matrix for "watery stuff"? By applying Davies' and Humberstone's "fixedly"-operator $\mathcal{F}$, we assumed that it does not matter for the

evaluation of "watery stuff" in which world it is uttered.

But perhaps it does:

"water"	H_2O	H_2O	H_2O	"watery stuff"	H_2O	XYZ	ABC
	XYZ_1	XYZ_1	XYZ_1		H_2O_1	XYZ_1	ABC_1
	ABC_2	ABC_2	ABC_2		H_2O_2	XYZ_2	ABC_2

If we assume that $XYZ = XYZ_1$ and $ABC = ABC_2$, it is still true that water $= \ddagger$(watery stuff). But we lost $\dagger$(watery stuff) = watery stuff:

"$\dagger\dagger$(water)"	H_2O	XYZ_1	ABC_2	"watery stuff"	H_2O	XYZ	ABC
	H_2O	XYZ_1	ABC_2		H_2O_1	XYZ_1	ABC_1
	H_2O	XYZ_1	ABC_2		H_2O_2	XYZ_2	ABC_2

We can do the same with "water is H_2O", abbreviating by "twatery stuff" and "swatery stuff" whatever macrophysical descriptions uniquely pick out XYZ in Twin Earth and ABC in the third world respectively:

"water"	watery	twatery	swattery	"H_2O"	watery	$watery_1$	$watery_2$
	watery	twatery	swattery		twatery	$twatery_1$	$twatery_2$
	watery	twatery	swattery		swatery	$swatery_1$	$swatery_2$

Davies's and Humberstone's rendering of the claim that "water is watery stuff" is a priori:

(10) $\mathcal{F}A$(water is watery stuff)

where $\mathcal{F}A$ ("fixedly actual") is defined as $\models_y^x \mathcal{F}A\alpha :\Leftrightarrow \forall y \models_y^y \alpha$ (where "$\models_y^x \alpha$" means "α, as evaluated in y is true of x"). $\mathcal{F}A$ corresponds to $\Box\dagger$:

(11) $\Box \dagger$ (water = $\dagger$(water))

From this, it plausibly follows:

(12) $\Box(\dagger$(water) $= \dagger \dagger$ (water))

Here, however, we have a double occurrence of $\dagger$. Though both "watery stuff" and "$\dagger$(watery stuff)" have the same diagonal, the apriority claim only goes through if they do not differ in the other fields.

Suppose watery stuff in w is XYZ, but that the inhabitants of w nevertheless use "water" to refer to H_2O. They certainly can consider a world v as actual (e.g. their own actual world w) where H_2O is not watery, in the same way as we can imagine a world where H_2O is not watery. So v is a world, considered as actual by the inhabitants of w, where the substance they call "water" is not watery. It is also a world where what we (actually) call "water" is not watery, but not a world where what we *would* call "water", if we lived there, is watery, for what we would call "water" in w is not H_2O, but XYZ. The inhabitants of w differ from us in their concept of water, not because they mean by it something other than H_2O (for they do not), but because they use it to refer to something which is not watery *by our standards*, i.e. which does not fill their lakes etc. This difference in counterfactual language use, however, between us and the inhabitants of w only shows up if we *presuppose* that it is H_2O and not XYZ that fills *our* lakes etc. If we were wrong about this, we could, for all we know, be inhabitants of w.

We cannot but evaluate *what we believe are the primary intensions of our words*.

Imagining having fixed the reference of "water" using "watery stuff", we distinguish the primary

from the secondary intension of "watery stuff". So we get a regress, in many respects similar to the regress of Fregean senses. This has been remarked by Davies and Humberstone:

> For the record, we should remark that the process which yielded 2-dimensional modal logic from the more familiar 1-dimensional kind can be iterated:truth can be triply relativized to a *real* actual world w_1, a 'floating' actual world w_2, and a floating reference world w_3. (Davies and Humberstone 1980: 10)

But something has to be a priori!

Is our competence with such terms is *ipso facto* competence in applying them to (descriptions of) counterfactual circumstances?

> "Given that we have the ability to know what our concepts refer to when we know how the actual world turns out, then we have the ability to know what our concepts would refer to *if* the actual world turned out in various ways." (Chalmers 1996: 59–60)[1]

And does this not mean that primary intensions are independent of empirical factors? It may be that, given that we know how the actual world turns out (e.g. that water is H_2O), we know what our words refer to (e.g. "water" to H_2O). Does it follow that we have the *further* knowledge that, for any possible way the actual world could turn out, our words would refer to such or such things?

> Possession of a concept bestows a *conditional ability* to identify the concept's extension, given information about hypothetical epistemic possibilities (in the broad sense of "epistemic possibility", invoking hypotheses about the actual world that are not ruled out a priori). (Chalmers and Jackson 2001: 5)

Our ability may be conditional, i.e. dependent on how the actual world turned and turns out, without thereby being an ability to determine, for whatever way the actual world could turn out, what the extensions of our concepts would be.

But do we have a choice?

> Now suppose that it is impossible to effect a partition among the possibilities independently of how things actually are. [1] No mental state, no linguistic item, no diagram, no system of semaphore, divides the possibilities, except *relative* to how things actually are. Then we can never say, diagram, depict, semaphore, think, ... how things are. [2] All we can do is say (depict, think, etc.) how they are *if* .... We are always in the position of one who only ever tells you what to do if you have high blood pressure, never what to do *simpliciter*. We can say how things are *conditional* on ..., but [3] can never make an unconditional claim about how things are. We cannot detach. This is a very radical doctrine. It is not that we cannot say with complete precision how things are. We really cannot say how things are at all. (Jackson 1998: 53)

Under one reading, "All we can do is (say (depict, think, etc.) how they are) *if* ..." follows from [1]. Only the different, and much stronger, reading "All we can do is say (depict, think, etc.) (how they are *if* ...)" gives us [3].

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[1]Cf. also (Chalmers 2002a: 612).

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