

A photograph of the International Space Station (ISS) in orbit above Earth. The station's complex structure, including multiple modules and large solar panel arrays, is clearly visible against the bright blue background of the planet's surface, which is partially covered by white clouds. The perspective is from a high angle, looking down at the station as it orbits.

Presemantic Implicature and Cognitive Content

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1.0 The concept of presemantics in relation to indexicals

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1.0 The concept of presemantics in relation to indexicals

An *indexical* is an expression whose referent is a function of the context. Examples of indexicals are "today," "here," and "over there." A *demonstrative* is an indexical whose referent is determined by an act of *ostension*---of pointing or otherwise indicating by means of a gesture---the object in question. Examples of demonstratives are: "that guy" and "this apple."

According to David Kaplan (1989), demonstratives are "directly referential." In other words, in virtue of having the form "...E...", where E is an occurrence of a demonstrative, a sentence-token S is true exactly if...O...

Kaplan's theory appears to have the counterintuitive consequence that sentence-tokens with radically different cognitive values can be identical in respect of their literal meanings. No real headway has been made on how to solve this problem.

For the sake of argument, suppose that, as Kaplan (1989) holds, demonstrative expressions are "directly referential." In that case, there is some object *x* such that proposition literally meant by a token of:

(A) "that overbearing and generally unsavory man standing over there next to that atrocious painting is a professor of anthropology"

is simply:

(B) *x is a professor of anthropology.*

But obviously what is *communicated* by a token of (A) will not be so threadbare. What is communicated is (inter alia) that somebody is overbearing and generally unsavory and is also standing next to some painting that is atrocious. Thus, what is *communicated* by a token of (A) will involve concepts like *painting*, *overbearing*, *unsavory* that are quite absent from (B). How is

this to be reconciled with Kaplan's thesis that (B) is the literal meaning of (A)?

There is no problem. We need only take into account the fact that people typically understand the expressions that they encounter *on the basis of their knowledge of the semantic rules that assign them meaning*. The semantic rule for the demonstrative expression "that overbearing and generally unsavory man standing over there next to that atrocious painting" is:

(C) For any context C, and any predicate ϕ , if somebody x in C is uniquely a salient overbearing and generally unsavory man standing next to a uniquely salient painting y, then a token in C of 'that overbearing and generally unsavory man standing over there next to that atrocious painting has ϕ ' means: *x has ϕ* .

The rule for (A) specifically is:

(D) For any context C, if there somebody x in C is a uniquely salient overbearing and generally unsavory man standing next to a uniquely salient painting y, then a token in C of "that overbearing and generally unsavory man standing over there next to that atrocious painting is a professor of anthropology" means: *x is a professor of anthropology*.

When one hears a token of (A), one has to work *through* (D). Anyone who knows (D) will know that an utterance of (A) will not be true unless, in the context of utterance, somebody x is a uniquely salient overbearing and generally unsavory man standing next to a uniquely salient atrocious painting y, and x is a professor of anthropology. So even though what a token of (A) literally means is (B), and thus doesn't involve the concepts of being unsavory or over-bearing, what such a token *communicates* to someone does concern these very concepts. Because of the information that one must *work through* in order to assign the right proposition to a token of (A), what such a token communicates is very different from what it literally means.

I will refer to information conveyed in this way as "pre-semantic implicature." We will find that what we just said about tokens of (A) is true, to some degree or other, of *all* sentences. In connection with this, we will find that pre-semantic implicatures are exponentially more powerful than the post-semantic implicatures studied by Grice.

1.1 The solution to an apparent problem with our analysis

There is a problem with the analysis just proposed. (We're assuming in this context that Kaplan's theory is correct.) To wit: An utterance of "that guy is evil" can have a radically different cognitive value from a different utterance of that same sentence, *even though both tokens of "that guy" refer to the same thing*. A story will both clarify this statement and suggest a way to solve the problem that it raises.

Somebody who is wearing a ski-mask, and who I therefore don't recognize, deftly snatches my pocket from my wallet. As he's running off, I point at him and yell: 'that man is a thief!' Let U_1 be this utterance. There is some individual x such that x has just stolen my wallet and such that what I've just said is true exactly if x is a thief.

The next day, my lovable office-mate Steve eats one of the cupcakes that was on my desk. I jokingly point at him and say: 'that man is a thief.' Let U_2 be *this* utterance. There is some x such that x just ate my cupcake and such that U_2 is true exactly if: x is a thief.

Unbeknownst to me, Steve is the pick-pocket, and there is some individual x , namely Steve, such that each of U_1 and U_2 is true if and only if x is a thief. Thus, U_1 and U_2 have the very same literal meanings. But I don't know this, even though I speak English perfectly and, on each occasion, obviously understand perfectly well what it is that I'm saying.

How this is possible? Our sense-perceptions describe things. My uttering U_1 was a response to my being given visual description of Steve. That description was to the effect that:

(i) there is some man x such that x is wearing a ski-mask and such that x is running off into the distance.

But U_1 's literal meaning is not that that effect. There is some man x such that x is wearing a ski-mask (etc.), such that in uttering U_1 I was saying that:

(ii) x is a thief.

The meaning of U_1 , being identical with (ii), is quite threadbare. But I *grasped* that threadbare meaning through my descriptively rich visual perception, whose content is given by (i).

My uttering U_2 was a response to my being given a different description of Steve. That description was to the effect that:

(iii) there is some man x such that x is a portly amicable fellow who is

sitting over in that chair.

But U_2 's literal meaning is not that that effect. There is some man x such that x is a portly amicable fellow (etc.) such that, in uttering U_2 , I was saying that:

(ii) x is a thief.

Echoing what we said a moment ago, the meaning of U_2 , being identical with (ii), is quite threadbare. But I *grasped* that threadbare meaning through my descriptively rich visual perception, whose content is given by (iii).

Because I grasped (ii) by way of different bodies of perceptual (descriptive) information, I didn't know, when uttering U_2 , that what I was affirming the same thing I was affirming in uttering U_1 . Oftentimes, literal meaning is cloaked by the *presemantic* information through which it is grasped, and semanticists are needed to uncloak it.

So, given some sentence-token st containing an indexical, there are three things we must distinguish. First: What st literally means. (So if O is referent of "that thief" in a token of "that guy is a thief," the proposition affirmed by st is to the effect that O is a thief, and it is not to any other effect.)

Second, we must distinguish st 's literal meaning from the semantic rules on the basis of a knowledge of which one understands st . In this context, the semantic rule for "that guy" is of special importance. Anyone who understands expression-type "that guy"---anyone who knows (in the relevant, operational way in which speakers of a language can be said to know it) what the *character* is of "that guy"---*ipso facto* that knows a token of "that guy" won't refer to an object O unless O is a male in the context in which that token occurred and who, perhaps because of an act of pointing on the speaker's part, is salient. And by virtue of having that semantic knowledge and, more importantly, by virtue of having to exploit it to assign the right literal meaning to so---by virtue of these two things, st , though not *itself* containing the concepts *man* or *contextually salient object*---will inevitably (non-semantically) convey a message of which concepts are constituents. The concepts *man* and *contextually salient object* (and/or whatever other concepts are internal to the character of "that man") are nowhere to be found st 's literal meaning. Where they *are* to be found is in the rules on the basis of one's knowledge of which is a *precondition* for knowing what st (literally) means. So such concepts, such information, is appropriately characterized as presemantic.

Third, we must distinguish the sensory information through which st is presented to one in

the first place. *st* didn't just occur in a vacuum. It occurred in a certain context, having distinctive spatiotemporal, physical, social, and possibly cultural components. One's sensory awareness of *st* is necessarily embedded in, or accompanied by, sensory awarenesses the information embodied in which has nothing to do with *st*'s semantics *or* with the sort of presemantic information discussed in the last paragraph. But, as we've seen (and are about to see again, this time in connection with proper names, as opposed to indexicals), this sensory information can dramatically effect the cognitive value of a given sentence. Since such sensory information is a prerequisite for even knowing of *st*'s existence, or *a fortiori* of knowing which semantic rules are the ones on the basis of which *st*'s literal meaning is to be determined, this sensory information might be described as *prepresemantic*. But it's better, I think, to use the term "presemantic" to cover the totality of information---some of it consisting linguistic rules, some of it consisting of non-linguistic, purely sensory information. The important point is that both kinds of information, though each is distinct from *st*'s literal meaning, can have an enormously important role in determining what *st communicates*.

Given a few platitudes about presemantics, most of which we've already stated, it's easy to solve some disputes concerning proper names that, despite decades of acrid disputes, have been quite fruitless and have warranted revisions of enormously well-confirmed and fruitful principles of logic and methodology.

2.0 The concept of presemantics in relation to proper names

In 1969, Saul Kripke gave a now famous series of lectures in which he argued that there are non-analytic necessary truths. The boldfaced, indented passage ("KA) contains a summary of Kripke's arguments an outline of an argument to the effect that, given Kripke's insights, direct reference theory is *de rigueur*. The latter argument not only identifies *a* reason why Kripkeans should accept direct reference theory, but *the* reason, or at least one of the more important reasons, why, despite having deep misgiving about direct reference theory and feverishly trying to make a case for an alternative, many authors, myself included, finally threw in the towel and accepted direct reference theory:

(KA) The ancients referred to the last celestial body (besides the sun) to disappear from the morning sky as 'Phosphorous' (or, to be precise, they referred to it with an expression whose Anglicization is 'Phosphorous'), and they referred to the first celestial body to appear in the evening sky as 'Hesperus' (same qualification). The former is Venus and so is the latter, and the former is therefore

identical with the latter. The ancients didn't yet know this; and they went for a very long time having no idea that some *one* celestial body appeared in the evening sky before any other and disappeared from the morning sky after any other. But eventually they found this out. What they found out isn't trivial, of course; it isn't in the same category as the fact that Hesperus is identical with Hesperus. What they discovered is a non-trivial, empirical fact.

Henceforth, 'FES' and 'LMS' will be our abbreviations for the predicates 'first celestial body to appear in the evening sky' will be abbreviated as 'FES' and, respectively, 'last celestial body (besides the sun) to disappear from the morning sky.

Contrary to what it is extremely tempting to believe,

(HIP) 'Hesperus is Phosphorous'

does *not* have the same meaning as

(S*) 'the LMS is identical with the FES.'

It will take a moment to make it clear why this is so.

Let P be the proposition expressed by HIP. As we just saw, empirical investigation was needed to establish the truth of P; so P is an empirical truth and is therefore non-analytic. It's important to keep the distinction between HIP and P in mind. The ancients didn't have any feelings about the English sentence 'Hesperus is identical with Hesperus.' And, in making the astronomical discovery that we've been discussing, what they found out had nothing to do with HIP – or any other sentence. It was an astronomical, not a linguistic, discovery. This point is crucial.

Moving on: If HIP has the same meaning as S*, then P is identical with the proposition meant by S*. And the latter is equivalent with the proposition that:

P*: exactly *one* thing is an LMS and exactly one thing is an FES, and nothing that has the one property lacks the other.

And the same is true of P, supposing that S* and HIP express the same proposition.

In light of these points, consider a world W* satisfying the following conditions. W* is *semantically* just like our world. So, in W*, people speak English. But, in W*, *Venus* isn't the LMS or the FES. In W*, because of some cataclysm that didn't occur in our world, Mars is the LMS, and Mercury is the FES. So, in W*, "the LMS" picks out Mars, and "the FES" picks out Mercury. This follows from the fact that W* is semantically just like our world. (If John McCain had become president in 2008 instead of Barack Obama, 'the U.S. president' would, given the semantic rules that we use, refer to McCain. But, given those very same rules, 'Barack Obama' would still refer to Barack Obama. In other words, if x is the person who *in our world* is referred to as 'Barack Obama', 'Barack Obama' would refer to x in W*. Similarly, if Mars were the LMS, as opposed to Venus, 'the LMS' would, given the semantic rules that we use, refer to Mars. But given those same rules, 'Venus' would still refer to Venus. In other words, if x is the planet that *in our world* is referred to as 'Venus', 'Venus' would refer to x in W*.

'Venus', like 'Barack Obama', is thus a *rigid designator*. If x is what 'Venus' *in fact* refers to, x is what 'Venus' would refer to in *any* world semantically like ours. But 'the LMS', like 'the current U.S. President', is *not* a rigid designator; it refers to different things in semantically identical situations. (It used to refer to Carter; now it refers to Obama. But the semantic rules governing that expression haven't changed in the least in the mean time.) In general, proper names are rigid designators. 'Hesperus' and 'Phosphorous' are proper names. Therefore, *unlike* 'the LMS' and 'the FES', they are rigid designators. So as long as the semantic rules of English haven't changed, there is some one object x such that (i) each refers to x; and, therefore, such that (ii) each of \ulcorner Hesperus has phi \urcorner and \ulcorner Phosphorous has phi \urcorner is true exactly if x has phi, a corollary being that (iii) 'Hesperus is Phosphorous' (HIP) is true exactly if x is identical with x.

It's obvious that, for any object x , the proposition x is identical with x is necessarily true. But it's equally obvious that the proposition expressed by HIP is empirical and, therefore, non-analytic. Therefore, HIP expresses a non-analytic necessary truth.

2.1 Kripke's argument evaluated

This argument involves a massive non-sequitur, which the following story exposes. I meet a man. We shake hands. I obviously see what he looks like. He tells me that name is 'Hesperus.' (Without worrying about the details, let's assume that I know him to be telling me the truth.) In this context, there is some individual x such that I am learning that:

(HX) 'Hesperus' is x 's name.

But *what* I am learning must be distinguished from the information *through which I am learning it*. The information relayed to me by my senses isn't confined to HX. It would be absurd to think otherwise. That information is more along the lines of:

(BHX) There is some individual x such that x is standing right in front of me (in my office in Richmond, VA) at this moment (3:00 p.m., March 13, 2009) and such that x has such and such characteristics (he has a mustache, he's over 6 ft tall, etc.) and such that I am being told, by x himself, that 'Hesperus' is x 's name.

So there is some x such that 'Hesperus' merely labels x . 'Hesperus' doesn't have for any part of its meaning anything having to do with the property of being over 6 ft., having a mustache, being in this or that place at this or that time. But the information *through which* I learn whom 'Hesperus' labels *does* concern such properties. That information is descriptive; a certain person x is visually represented, and thus described, to me as having certain characteristics (over 6 ft tall, etc.); and, with this help of this information, it is also being made clear to me that 'Hesperus' names x . But that descriptive information is not *itself* a part of the semantic rule that, with its help, I am learning – that is to say, it is not itself any part of HX. HX is extremely threadbare; it merely puts a label on a certain object. So the just-mentioned descriptive information has no place in the *semantics* of 'Hesperus', its relevance is confined to the presemantic act of assigning it to the right object. That information isn't semantic; it's *presemantic*.

The following evening, I receive a phone call. I don't recognize the caller's voice. The caller

is obviously using a voice-modulation device, giving it a metallic, threatening sound. And threaten is just what he does; for he says ‘if you don’t move out of town, I’m going to kill you. By the way, my name is Phosphorous.’ I look at my caller ID; and, sure enough, the call is from one ‘Phosphorous.’

In this context, there is some individual *y* such that I am learning that:

(PX) ‘Phosphorous’ is *y*’s name.

PX merely registers the fact that a certain name is associated with a certain object. It doesn’t say anything (else) *about* that object. It doesn’t say whether that object is tall or short, friendly or unfriendly. PX is exceedingly threadbare. But the information *through* which I am learning PX is very different from PX itself. *That* information – that *presemantic* information - is along the lines of:

(BPX) There is some individual *y* such that, a moment ago (7:00 p.m., March 14, 2009), *y* rang me; such that, using a voice-modulation device to disguise his voice, *y* is making threatening statements; and such that I am being told, by *y* himself, that ‘Phosphorous’ is *y*’s name.

Here must we repeat (*mutatis mutandis*) what we said a moment ago. There is some *y* such that ‘Phosphorous’ merely labels *y*. ‘Hesperus’ doesn’t have for any part of its meaning anything having to do with the property of talking on the phone with me at a certain time, or of using a voice-modulation device, or of making threats. But the information *through which* I learn who ‘Phosphorous’ labels *does* concern such properties. That information is descriptive; a certain person *y* is perceptually represented, and thus described, to me as having certain characteristics (calling me at a certain time, making certain statements, etc.) and, with this help of this information, it is also being made clear to me that ‘Phosphorous’ names *x*. But that descriptive information is not *itself* a part of the semantic rule that, with its help, I am learning – that is to say, it is not itself any part of PX. PX is extremely threadbare; it merely puts a label on a certain object. So the just-mentioned descriptive information has no place in the *semantics* of ‘Phosphorous’, its relevance is confined to the *presemantic* act of assigning it to the right object. That information is entirely *presemantic*; not of it makes it into semantics of ‘Phosphorous.’

But such *presemantic* information can have an incalculably profound effect on what is (non-semantically, i.e. non-literally) *conveyed* by utterances. A continuation of our story makes this clear. Right after getting the upsetting phone-call, the police call. They know about the phone call (let’s not worry about how), and they say to me:

(A1) 'Phosphorous is a professor of political science.'

There is some y such that A1 does nothing more than affirm the innocuous proposition that:

(A2) y is a professor of political science.

But under the circumstances, what will be conveyed to me is some much richer proposition along the lines of:

(A3) There is some individual y such that, a little while ago (at around 7:00 p.m., March 14, 2009), y rang me; such that, using a voice-modulation device to disguise his voice, y is making threatening statements; such that I am being told, by y himself, that 'Phosphorous' is y's name; and, finally, such that y is a professor of political science.

The presemantic information embedded in BPX affects what I *take away* from the policeman's utterance of L1, even though it is no part of its literal meaning. For exactly similar reasons, the presemantic information embedded in BHX affects what I would *take away* from an utterance of

(B1) 'Hesperus is an avid tennis player.'

There is some x such that B1 does nothing more than affirm the descriptively impoverished proposition that:

(B2) x is an avid tennis player.

But under the circumstances, what that utters conveys to me conveyed to me is some much richer proposition along the lines of:

(B3) There is some individual x such, a couple of days ago (March 13, 2009) at about 3:00 p.m., x is standing right in front of me (in my office in Richmond, VA; such that x has such and such characteristics (he has a mustache, he's over 6 ft tall, etc.); such that 'Hesperus' is x's name; and such that x is a political science professor.

We need only add one finishing touch to our story to see what's wrong with Kripke's reasoning. The police arrest Phosphorous. They ask me to come down to the station to talk to them. They point to Phosphorous (who is handcuffed) and say: 'that's Phosphorous.' Phosphorous, I now see, is none other than Hesperus. The man I see is the mustachioed man I met a few days earlier. The police then say: 'Phosphorous also goes by the name of Hesperus. His legal name is 'Hesperus Phosphorous.' But he tends to introduce himself as either 'Hesperus' or 'Phosphorous.' In any case, *Hesperus is Phosphorous.*' The italicized sentence is none other than HIP, of course.

Given what we've already, it obvious that there is some *one* individual z such that this utterance of HIP is true exactly if:

(K) z is identical with z.

Any proposition of that form is trivial. It is always trivial to say of an object that it is identical with itself. But by obvious extensions of what we said a moment ago, when I hear the policeman's utterance of HIP, what I *take* away from it – what it (non-literally) *conveys* to me, given the presemantic information at my disposal – won't be at all trivial, as it will be along the lines of:

(K2) There is some individual x such, a couple of days ago (March 13, 2009) at about 3:00 p.m., x is standing right in front of me (in my office in Richmond, VA; such that x has such and such characteristics (he has a mustache, he's over 6 ft tall, etc.); such that 'Hesperus' is x's name; and such that x is a political science professor; and there is some individual y such that, a few hours ago (at around 7:00 p.m., March 14, 2009), y rang me; such that, using a voice-modulation device to disguise his voice, y is making threatening statements; such that I was told by y himself that 'Phosphorous' is y's name; and such that y is a professor of political science; moreover, I have just learned from the police that x *is* y.

K2 is an empirical proposition; it isn't analytic; *a fortiori* it isn't trivial. *But it's also a contingent truth.* K, on the other hand, *is* a necessary truth. *But it's also analytic.* So we don't have *anything* that is both necessary *and* non-analytic.

Kripke and, after him, many others have professed to find many examples of non-analytic necessary truths; but in each case, an exact analogue of the argument just given shows a

confusion similar to the one just identified to be at work. In each case, semantics is being confused with presemantics.